

JPRS 69191

3 June 1977

TRANSLATIONS ON LATIN AMERICA

No. 1658

SELECTIONS FROM ESTRATEGIA

No. 43-44, NOVEMBER-DECEMBER 1976,

JANUARY-FEBRUARY 1977

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<b>BIBLIOGRAPHIC DATA SHEET</b>	1. Report No. JPRS 69191	2.	3. Recipient's Accession No.																																							
4. Title and Subtitle TRANSLATIONS ON LATIN AMERICA, No. 1658 Selections From ESTRATEGIA No. 43-44, November-December 1976, January-February 1977		5. Report Date 3 June 1977																																								
7. Author(s)		6.																																								
9. Performing Organization Name and Address Joint Publications Research Service 1000 North Glebe Road Arlington, Virginia 22201		8. Performing Organization Rept. No.																																								
		10. Project/Task/Work Unit No.																																								
		11. Contract/Grant No.																																								
12. Sponsoring Organization Name and Address  As above		13. Type of Report & Period Covered																																								
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16. Abstracts  The serial report contains articles on political and sociological developments in major areas of Latin America, as reported primarily from Latin American newspapers and periodicals. It also includes information on major segments of Latin American economy, geography, culture, and ethnography.																																										
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17b. Identifiers/Open-Ended Terms																																										
17c. COSATI Field/Group 5D, 5C, 5K																																										
18. Availability Statement Unlimited availability. Sold by NTIS Springfield, Va. 22151		19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 66																																							
		20. Security Class (This Page) UNCLASSIFIED	22. Price PC A04																																							

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## ARGENTINA

### FUTURE OF MALVINAS ISLANDS NEGOTIATIONS DISCUSSED

Buenos Aires ESTRATEGIA in Spanish No 43-44 Nov-Dec 76 Jan-Feb 77 pp 6-18

[Article by Gen Juan E. Guglielmelli]

[Text] During the last 2 weeks of February, a delegation from the government of the United Kingdom, headed by the ministry of state for foreign and commonwealth affairs, Edward Rowlands, discussed the future of the Malvinas Islands negotiations with an Argentine group led by the undersecretary of foreign relations, Navy Capt Gualter O. Allara. These initiatives started in 1966 but were suspended 10 years later when our country, in the face of the intemperate British position, took action to have the respective ambassadors withdrawn (January 1976). In this article, we will attempt to evaluate the meetings of 22 and 23 February, as regards the status and the prospects for the negotiations whose objective is to define the dispute over sovereignty and what it means in consideration of our rights to recover for the national patrimony the archipelago which was usurped from us in 1833. To do this, we will have to relate a number of antecedents which will permit us to compare positions, as well as clarify one of the most controversial points of the discussions: the British desire to include the subject of economic cooperation as part of said negotiations.

I. The Malvinas Islands and the United Nations. Bhe Bilateral "Conversations Up to January 1976. Positions of the Parties.

The problem of the Malvinas Islands was placed on the agenda of the United Nations when Great Britain, as a consequence of Resolution 1514 (XV) (December 1960), included by its own decision our archipelago as colonial territory of the United Kingdom. As the result of this action, the islands remain subject to the decolonization process, with London committed to its execution. Later, the UN produced two resolutions linked with the subject: Resolution 2065 (XX) (December 1965) and Resolution 3160 (XXVIII) (December 1973). The former was definitive in that it oriented and placed in perspective the bilateral initiatives which were to be carried out. In this connection, the UN took note of the existence of a dispute between Argentina and the United Kingdom "concerning sovereignty" over the Malvinas Islands and invited the

parties without delay to continue "the negotiations" to find a peaceful solution to the problem, taking into consideration the objectives of the UN Charter, Resolution 1514 (XV), as well as "the interests" of the islanders. There is much substance to this Resolution since, on the one hand, it limits the "negotiations" to the subject of sovereignty and, on the other, to consideration of the Malvinians, rejecting the British claim of contemplating "the wishes" of same, as we will see later.<sup>1</sup> Resolution 3160 (XXVIII), on the other hand, has lesser significance, as it is limited to expressing its preoccupation over the lack of progress in the negotiations and urges the parties to continue them without delay.

It is not my intent here to follow in detail the various discussions, both in the United Nations as well as during the bilateral initiatives. Rather, we will limit ourselves to summarizing the positions of the parties on the different points, some of which (such as economic cooperation) take on particular importance.

As for the problem of decolonization, Great Britain has maintained in principle that the right of the islanders to self-determination be recognized, advancing as an argument consideration for their "wishes." Argentina rejected this thesis with sufficient reasons and offered the only remaining variant in place of that alternative: territorial integrity. Resolution 2065(XX), by positioning the interest of the inhabitants as a condition, rejects the British claim.

During the bilateral initiatives, the United Kingdom insisted upon the conception that they did not constitute "negotiations" but rather "conversations" or "discussions," including in the same the subject of communications between the islands and Argentine territory.<sup>2</sup> In this regard, it maintained that this topic was intimately related to the heart of the matter. Our country, on the other hand, understood this matter to be "colateral conversations," as the subject for discussion could be nothing other than recognition of Argentine sovereignty over the archipelago. In this respect, Buenos Aires added, said subject could not be conditioned, delayed nor substituted at the heart of the problem.

On 8 December 1975, the Argentine representative to the United Nations denounced as regressive the British attitude in the initiatives, since it not only adhered to the prior authorization of the islanders to carry on negotiations concerning sovereignty but also attempted to supplant them by a "discussion" of "economic cooperation." The position of London precipitated events. Shortly thereafter (2 January 1976), our Foreign Office, by means of a communique, made public opinion aware of an unusual British claim: "It wishes to carry on conversations with an open agenda on the subject of 'economic cooperation' to which end it could authorize its officials to listen to what the Argentine party wished to propose on other matters." A few days later, in the communique announcing the withdrawal of the ambassadors (13 January 1976), it was stated that the English prime minister, James Callaghan, "persists in his persuasive intent to refer to economic cooperation, on the other hand, describing as sterile the dispute over sovereignty."

Thus far, I have summarized the most important antecedents on the subject of the Malvinas. The United Nations, which cannot take sides in the dispute, is urging the two parties to negotiate on the subject of the sovereignty of the islands, according to the interests of the islanders. Great Britain, however, contrary to the letter and the spirit of Resolution 2065, at the beginning of 1976, insisted upon the right of self-determination of the Malvinians, refused to discuss the problem in-depth and attempted to replace the subject of sovereignty with Argentine-British economic cooperation in the region of the southwestern Atlantic.

## II. The Shackleton Report

The fact that ESTRATEGIA has published<sup>3</sup> the text of this report, volume II (Strategy, Recommendations and Implementation), preceded by an exhaustive preliminary study, relieves us of the need for examining in detail a number of aspects of the report. We will, instead, focus these comments upon the principal questions linked with the subject of "economic cooperation." It seems unnecessary to state the importance of Shackleton's work, both for the British Government and for our own. At the outset, because it is a basic element of the internal political game in relation to the dispute with Argentina and, with respect to our country, in his conclusions, among others, there are geographically part of the national territory; Malvinian economic stagnation cannot be resolved without our contribution; from his analyses and proposals may be extracted the possible British claims as regards economic cooperation.

It is worthwhile, however, before taking up the subject which most concerns us at this time (economic cooperation) to recapitulate several aspects of overall interest:

The report, part of a working hypothesis, [states that]: "their political status (he is referring to the Malvinas) will continue to be the same as that prevailing during the last one and a half centuries" (p 115), that is to say, that they will continue to be a British colony.

It omits the spurious origin of British possession and skirts or omits historical aspects which touch upon the unquestionable right of our country to the islands.

The report recognizes the economic prostration of the islands which is attributable not only to a number of geographical factors but also in particular to their economic-social structure, the consequence of a single-product economy depending upon a dominant variable, namely the price of wool on the world market. In this connection, the Falkland Islands Company (FIC) has a crushing presence, constituting its principal dependency factor. This, let us add, is without the slightest prejudice to the British Government which now shows itself to be quite concerned over the well-being and the "wishes" of its inhabitants. To the contrary, that government (independent of the parties which returned to power) shared the benefits of the situation described without adopting the measures advised by previous reports (see pp 115-116).

It states that the "subject of sovereignty hangs over our report as it hangs over the Malvinas, and the lack of an agreement could inhibit the full development of the islands" (p 115).

The report makes its own the statements of the Griffiths' team to the effect that the Malvinas Basin, to which we will return later, "is a prolongation of the Magellan Basin (southern) which at present is producing oil and natural gas" (p 17), a conclusion, as we stated earlier, which supports our position in the argument.

Let us now take up the principal objective: "economic cooperation." This subject is covered in the report in the analysis of the resources of the islands, the economic activities which they promote and, in particular, possible new exploitations. In this regard, the report cites the almost total dependence of the population upon imports of fuel (except for peat); food (except for mutton, some milk and vegetables); clothing; and all kinds of manufactured products. It also examines the industrial possibilities of wool, tourism, handicrafts, refrigeration industries derived from sheep, marine, sea and continental platform algae, as well as minerals, fishing and, in a basic way, hydrocarbons which, the report states, do not exist in the territory of the islands.

It is worth underscoring categories in which our cooperation is considered most important: tourism, refrigeration industry and marine algae. Despite these possibilities, Lord Shackleton finds the fundamental lines of cooperation in the economic potential of the sea and the submarine continental shelf: fishing and the hydrocarbons of the Malvinas Basin. Here, in our opinion, is the crux of the matter the relevance of which the writer discusses in his introduction: "It is, therefore, logical that in any new advances of any magnitude in the economy of the islands, especially those relating to the exploitation of the submarine resources, if this be possible, the cooperation and the participation of Argentina must be assured" (p 115). It is, therefore, opportune to discuss these two aspects in greater detail.

Fishing. The sea surrounding the Malvinas can be considered as the largest of proteins in the world. The development of fishing would guarantee the self-sustained economic development of the islands. There is a varied number of edible species, notable among these being the krill. However, the exploitation of this wealth would require a great financial, technical and entrepreneurial effort. Despite this, in that sector Argentine cooperation is not expressly solicited, although it is found to be implicit in the recognition that, in addition to the benefits which would redound to the Malvinas Islands, "it would also provide benefits to Argentina" (p 118). The truth of the matter is that there is awareness that there will be no possibility of fishing development for Great Britain without a solution to the problem of sovereignty or, at least, the consent of our country to permit such activities.

Hydrocarbons of the submarine continental shelf. This is the key point of the report, insofar as our examination is concerned. The Malvinas Basin is described as the area of concern, "which is the basin which extends between



the islands and the continental territory."<sup>4</sup> However, this basin reportedly is not the most promising, as "the principal region of interest is found on the high seas" (p 71), a fact which subjects its future to the conclusions of the Conference on the Law of the Sea. As for the Malvinas Basin, let us set forth a number of conclusions from the report:

The report adopts a rather reticent and sceptical position vis-a-vis the perspective of the hydrocarbons potential. Its proposals take their point of departure from an earlier geophysical (seismic) exploration effort of 2 or 3 years duration, and then, on the assumption of satisfactory results, goes on to a plan for submarine drilling during a period that is estimated at from 3 to 10 years.

The report points out the social-economic disadvantages which would be produced on the islands if the logistic support of all of the described activity were to take place on the islands themselves. It also adds that for the production phase "it would be advantageous to construct a pipeline to the Argentine continent" (p 39).

The report acknowledges that there would be scant probability of positive responses to a unilateral policy of granting licenses on the part of the Malvinas Islands, not only because of the political risks, but also because of the high cost of that effort without Argentine collaboration and the defensive military effort that such activity would involve (p 71). Nevertheless, it infers that there could be interested companies if "they were offered licenses and the existing political barriers were lifted [*in italics*] to permit exploration and production" (p 39).

In addition to Great Britain, the report adds others interested in the possible exploration for hydrocarbons, which leads us to think that London is not acting for itself alone but rather for third parties or, at least, with a view to obtaining the support of the latter. As a matter of fact, according to the writer, "when the accords which associate the Malvinas Islands and their dependences with the European Economic Community become effective, there will be implications with respect to oil exploration and production permits or leases" (p 72), among which the most important emphasizes "not discriminating between the national companies and those of the Members States of EEC which wish to establish subsidiaries or provide services on the Malvinas Islands and "the granting of monopoly rights to exploration or production" (p 73). It goes without saying, let us add, if the Malvinas were restored to their legitimate owner.

With regard to Argentina, on the subject of hydrocarbons the report states:

a. Jurisdiction to grant licenses: it says that "theoretically it would be necessary to have an agreement between Argentina and the government of the Malvinas Islands on the "drawing of a middle line, although perhaps forms of cooperation can be found which would help avoid this point which could block the negotiations" [*in italics*] (p 72).

b. The report finds it "improbable that exploration programs (for hydrocarbons) can be launched in the maritime region of the Malvinas without the agreement and the cooperation of Argentina. In fact, it is extremely doubtful that an oil company would be disposed to accept a unilateral offer of licenses for exploration or production by the government of the Malvinas Islands without the firm security that this is also acceptable to Argentina. This is not solely a matter of the fact that costs of exploration and production are too high to assume the political risks, but also because the logistic aspect of an operation which would bypass Argentina probably would have little attraction from the economic standpoint" (pp 118-119).

c. "The new exploratory program of Argentina and the state of its economy can buttress the economic argument, from its standpoint to arrive at some kind of political understanding. One additional factor is that Great Britain, through its principal oil companies and, what will be more important in the future, the state company BNOC [?British National Oil Company], will have experience in deep waters and the financial resources which Argentina perhaps does not possess" (p 71).

d. Finally, Appendix 4 (pp 104-107) is devoted to the different licenses options for submarine exploration and production, emphasizing the lack of financial capability of our country on its own to implement a large submarine drilling campaign, as well as its political future which in this sector could be influenced by the results obtained by PETROBRAS [Brazilian Petroleum Company] in its new method of operation.

Summarizing the conclusions with regard to "economic cooperation" in the working hypothesis of the authors of the report (the maintenance of the colonial status of the islands), we would have two areas of interest. One has to do with better living conditions for the Malvinians. The other, of great interest to the British, concerns the exploration and exploitation of the sea and the submarine continental shelf, particularly the hydrocarbons of the Malvinas Basin. In this second group of ideas, the contribution of Argentina is proposed with various alternatives: that it permit the activity; that the area between the islands and the continent be limited; other forms of agreement, to be defined, which will overcome the problems which might be created by the first two areas of interest.

However, with respect to the above-mentioned working hypothesis, Argentina must look toward another alternative, perhaps the most probable of all. Since the government of the United Kingdom has reserved to itself the decision regarding the sovereignty of the islands, another framework arises for the negotiations: the restitution of the archipelago. That is to say, economic cooperation in the southwestern Atlantic can take place on the basis of this other hypothesis. We will concern ourselves with this hypothesis in the following section.

### III. Rowland's Visit

In the light of these antecedents, we can examine the meetings held on 22 and 23 February and evaluate their results. This evaluation, given the secrecy which surrounded the sessions, must perforce be based upon the precedent materials cited and the official communiques, the wording and terms of which seem to have been carefully selected, doubtless so as not to hamper subsequent initiatives.

For clarity of exposition, it is convenient to separate the positions into two parts: Sovereignty of the Malvinas on the one hand and Economic Cooperation on the other.

With respect to the former, it is evident that Argentina, according to what may be inferred from the statements made by the undersecretary, Gualter Oscar Allara, to a newsman and the Joint Communique dated 23 February, maintained its thesis that the basic problem of the negotiations is the subject of sovereignty, refusing, as we will see later, to put it on the same level as economic cooperation. Great Britain, to the contrary, has modified some positions and has become more flexible in another. As a matter of fact, it has changed its position by agreeing to negotiations, as distinct from its prior thesis of conversations. It also has agreed to discuss the thesis of sovereignty, even in connection with economic cooperation, as will be explained in a later paragraph. London, as we have said, has made its position in another sector more flexible: the consent of the Malvinians as regards the transfer of sovereignty. Now, it says, it will take into consideration the interests of the inhabitants even though the definitive resolution is conditioned by discussion and formal acceptance of the possible agreements by the House of Commons. This interpretation arises out of the statement made by Rowlands when he departed from the islands and the Buenos Aires debate.

In his message to the Malvinian people (21 February), the British official declared: "...The position of the United Kingdom regarding sovereignty... would in no way be prejudicial to them--the Malvinians--and, two, there would be complete consultation with the islanders in the course of any negotiation..."

For his part, Foreign Minister David Owens, during a debate in the House of Commons, according to a Buenos Aires newspaper (CLARIN, 2 March 1977, p 3), made reference to the subject in the following manner: "The British Government will reserve its position on the subject of sovereignty;" any change in sovereignty will have to originate in this House and I am fully confident that it will not approve any draft legislation relating to sovereignty unless it is confident that the islanders are satisfied and think that it is acceptable. This is the safeguard principle." In responding to a question as to why he was not giving "full assurance that there would be no transfer of sovereignty without the consent of the islanders," the foreign minister underscored "the care with which he had selected the terms."

It is precisely as the result of this care in the selection of terms and the expression "complete consultation" on the part of Rowlands (if convenient he can include plebiscite) that we prefer to describe the British position as flexible with regard to its previous thesis of the "wishes" and the "consent" of the islanders, not for now judging it to be a definitive position. The fact of the matter is that the foreign minister has reserved the final interpretation of his statements, which permits him to maneuver in the future, according to changes in circumstances and in conformity with what best suits the interests of the United Kingdom.

Let us now move on to the subject of economic cooperation which, as we shall see, is one of open disagreement. Argentina, in accordance with the antecedents, continues to understand the matter as a colateral affair which cannot be included in the "negotiations," nor even less can it condition the sole subject matter of the latter; i.e., the problem of sovereignty. This position arises not only out of the statement by our undersecretary cited above but also out of the wording of the Joint Communiqué dated 23 February which states: "The purpose of the meetings was to consider all aspects of the future of the Malvinas, South Georgias and South Sandwich Islands and economic cooperation." If we interpret this statement correctly, the word "all" would have included cooperation, making it unnecessary to add "and." Therefore, "all" refers to the totality of the problems in connection with the matter of sovereignty and the transfer of the islands, with the question of economic cooperation remaining on another level.

For its part, Great Britain made its position clear. In his message, Rowlands states that he will return to Buenos Aires "for subsequent formal negotiations related to the inseparable subjects of political relations and economic cooperation." What happened is that the United Kingdom, by agreeing to negotiate the sovereignty of the islands (with adequate reassurances as Owens said) intends to include economic cooperation as the other side of one and the same coin. And that is not true, as two different coins are involved, not only because of the different nature of the two matters but also because Resolution 2065 (XX) is very concrete in this respect. Let us now return to Shackleton's working hypothesis and to the second alternative which we announced earlier. The former was without return [of the islands], the latter with restitution. In this variant, Great Britain will attempt to barter the sovereignty of the islands for Argentine "cooperation" in hydrocarbons and fishing, which will not be concretized if London feels that it has not optimized its benefits. And, of course, as in the case of sovereignty, it will seek adequate reassurances. This possible proposal is what makes it possible to understand the obdurate British position of including both theses in the negotiations, as parts of one subject. In any event, the probable barter alternative would constitute for Argentina, in very modern language, a kind of ransom payment for what was taken from us in 1833.

Argentina, in turn, agreed to "talk" about communications between the continental territory and the islands with the understanding that this was a matter colateral with the theme of the initiatives. At this time, we would

be proceeding in conformance with the law if we were to adopt the term "negotiation" for the subject of sovereignty and "conversations" for the subject of "economic cooperation," which appears to be, moreover, in accordance with our interpretation of antecedents and communiquees what took place.

Thus far, we have examined the February meetings. With a view to avoiding repetition, let us move on to a summary of achievements and a discussion of their projections.

#### IV. Conclusions and Prospects

1. The Buenos Aires meeting can be an important step in the renewal of initiatives on the return of the Malvinas Islands. Great Britain agrees to negotiate; however, it considers sovereignty and economic cooperation to be parts of a single subject. It also reserves to itself the manner in which the interests of the Malvinians will be consulted. Argentina rejects economic cooperation as a subject for negotiation. The disagreement on this point can delay or lead to an impasse as regards the initiatives.
2. In connection with economic cooperation in the southwestern Atlantic, Argentina should maintain the position it has taken, according to our analysis, of agreeing to "conversations" without conditioning the subject of sovereignty as the result thereof. However, we must be careful in the conduct of affairs not to fall into a formal difference of opinion.
3. Two groups of ideas constitute the subject of the desired Argentine cooperation. Those which relate to the improvement of the situation of the Malvinians and those which refer to fishing and in particular to hydrocarbons. To the former, our country, without requesting any tradeoff, has contributed broadly and generously. This includes the British loyalty of the Malvinians. And in the solution of the dispute it is certain that there will be greater concessions to assure them of better alternatives in defense of their interests. But they should not go beyond what we have proffered. Rather, it is better not to dismiss the possibility of suspending the support provided if the London government does not define the problem in-depth.
4. As for fishing and hydrocarbons, we are faced with two alternatives: cooperation with the return of the islands and cooperation without restitution. The former will be the most probable. London doubtless will seek a tradeoff in exchange for greater benefits, even in case, as is logical, it offers the participation of Argentina in the profits. In the British proposals, the presence or the support of the large companies of EEC should not be dismissed.
5. Argentina should not yield as regards sovereignty, nor condition it upon economic cooperation. For our part, in the Introduction to Shackleton's report, we maintained what we are now reaffirming. "It is indispensable to make Great Britain understand that so long as the point of departure is not defined; i.e., the recognition of Argentine sovereignty over the

archipelago, there are no bases for discussion of any possibility of collaboration of our participation in the economic development of same. Said in another way, if Argentine rights over the Malvinas, Southern Georgias and Sandwich Islands are accepted, Great Britain will be able to cooperate or collaborate in the development of these islands, as best befits our intentions and interests."

6. This notwithstanding, we can agree to conversations on economic cooperation, particularly concerning the hydrocarbons in the Malvinas Basin. But in order to listen and talk with responsibility within an optimum framework, it is necessary: a. to explore the basin to determine the potential of same with the greatest exactitude; b. to evaluate our real technical and financial capacity to exploit the submarine continental shelf in a sea with such difficulties; c. to intensify with the greatest urgency the exploration for and exploitation of oil and natural gas in the continental territory, with a view to selfsufficiency in hydrocarbons. The first necessity should be faced up to by our country, at the point where it can do so technically and financially. The second necessity should be clarified by our best specialists as soon as possible. The last necessity is an urgent task which must be assumed right now with total decisiveness.

7. The negotiations, if they are renewed, will be slow and vexatious. Great Britain may insist upon not returning the islands or may embroil the problem with the same objective. However, it will have to play against time, since it is in our favor. In any event, Argentina should not lower its guard. It must insist upon a peaceful solution, without dismissing the extreme alternative. The latter, of course, requires preparation of the best strategic conditions. To conclude, let us go back to statement we made in the Shackleton Report: "since the restitution of the Malvinas Islands is a bilateral question, the center of gravity of the action corresponds to apply it to our national power (economic, military, political and psychosocial) and to the most important British components of the problem: their government; the FIC [expansion unknown]; the Malvinian inhabitants; their public opinion in general"... "Let us add finally that, on the national level, it will be indispensable to mobilize all of the moral, spiritual and material energies, which imply, particularly in the last-named aspect, the development of the not yet integrated sectorial and spatial economic potential right now as regards the exploitation of fishing and hydrocarbons in the sea and southern basins, respectively, as well as mining exploration on the sea bed."

Documents Related to the Buenos Aires Meetings (22-23 February 1977) on the Negotiations of Argentina and the United Kingdom Concerning the Sovereignty of the Malvinas, Southern Georgias and Southern Sandwich Islands

Joint Communique Announcing the Visit of Sir Edward Rowlands (2 February 1977)

"The Ministry of Foreign Affairs and Worship announced today that British Minister of State for Foreign Affairs Ted Towlands will visit Buenos Aires and the Malvinas Islands in the last fortnight of this month.

"Once in Buenos Aires, Minister Rowlands will meet with officials of the Argentine Government to consider all aspects of the future of the Malvinas Islands and Argentine-British economic cooperation in the region of the southwestern Atlantic."

Statement to a Newsman by the Undersecretary of State for Foreign Affairs, Navy Capt Gualter Oscar Allara (21 February 1977).

"I know that it is not advisable nor constructive to repeat or be guided by reports that have no official character. We have scheduled joint working sessions with the British delegation which is visiting us in the course of which both parties will broadly express their positions and concerns in connection with the subjects Minister Rowlands came to our country to discuss.

"What I can tell you is this. The Argentine position was not defined today. It is the same position which has continued over decades of bilateral or multilateral diplomatic action. It is not another position; it cannot be another position. Whether you call it a reclamation or recovery action does not matter: its purpose and finality are the same. We will not depart from that.

"Now then, if simultaneously with our very precise and set purpose, which is coherent and coincident with the national tradition in this regard, an effort is made to draw or project a line of economic cooperation to the benefit of the region, we will study it with total interest and will discuss it decisively. However, I repeat, such a thesis or subject can become the object of parallel study, although always subordinated or referred or conditioned to the negotiation or the setting of the method and plans for formal negotiations on that which concerns us: the restitution of our Malvinas Islands."

Statements by Sir Edwards Rowlands at the Conclusion of His Visit to the Malvinas

"Mr Edward Rowlands, Minister of State of the Foreign and Commonwealth Office, left the Falkland Islands on 21 February after an exhausting period of consultations with a broad sector representative of island opinion and after talking with the authorities on the basis of these consultations. The minister told the authorities of the islands that he would attempt to establish reference points with the Argentine Government with a view to subsequent formal negotiations related to the inseparable theses of political relations and economic cooperation. In such negotiations, the broad matters which affect the future of the islands were to be discussed. However, he assured the islanders that first of all the negotiations would be completely covered by the "umbrella of sovereignty," that is, the position of the United Kingdom vis-a-vis the sovereignty of the islands would in no way be prejudicial to them; and, second, there would be complete consultations with the islanders during the course of any negotiation.

"In view of this commitment, the island authorities approved the plan of the English Government to establish the basis for negotiating with the

government of Argentina. Pursuant thereto, Mr Rowlands will hold conversations during his next visit to Buenos Aires on points of reference appropriate to any negotiations, which will be carried out at some future date. The minister gave assurances that he will inform the authorities of the islands of the results of these exploratory conversations in Buenos Aires."

#### Joint Communique at the Conclusion of the Meeting (23 February 1977)

"During the 22d and 23d days of this month, meetings were held in the Ministry of Foreign Affairs and Worship between officials of the Argentine Foreign Office, headed by the undersecretary of foreign affairs, Navy Capt Gualter Oscar Allara, and the British delegation led by Edward Rowlands, Minister of State in the Foreign and Commonwealth Affairs Office.

"The purpose of the meetings was to consider all aspects of the future of the Malvinas, Southern Georgias and Southern Sandwich Islands and Argentine-British economic cooperation in the region of the southwestern Atlantic and to explore the possibility of establishing terms of reference for subsequent negotiations.

"In the present state of the initiatives, it has become necessary for the delegations to consult their respective governments concerning a number of aspects the clarification of which should properly be pursued to broaden the area of understanding reached up until now.

"The initiatives, which were conducted in a constructive spirit, will continue at a date and place to be established opportunely."

#### FOOTNOTES

1. This Resolution was approved by 94 votes for, none against and 14 abstentions. Among the latter were the United Kingdom, the United States, France, South Africa, Canada and Australia.
2. The initiatives within the framework of Resolution 2065 (XX) started in 1966. The Special Conversations whose practical purpose was the establishment of communications were initiated in London in 1970. The British delegation had three Malvinian members. The conversations ended with the Joint Declaration dated 1 July 1971.
3. ESTRATEGIA, Document Series No 1. Shackleton Report (Strategy, Recommendations and Implementation). Buenos Aires, January 1977. When we cited page numbers in parentheses at the end of quotations, we were referring to this edition.
4. From our standpoint, the Malvinas Basin (which includes the Burwood Bank or Namancura) is east of the eastern limit of the Southern or Magellan Basin which, according to Argentine technicians, is delimited



by the line which joins the mouth of the Coyle River (Province of Santa Cruz) and the Island of the States. The report does not mention the River Basin (approximately 150 kilometers northeast of the Malvinas Islands on our continental shelf) and the Mosconi Basin (some 350 kilometers east-southeast of the Malvinas) and the Moreno Basin (west of the Southern Georgias Islands), both between 1,000 to 2,000 meters below sea level. (These data were taken from the work of Dr Antonio Sebastian Pocovi, YPF [Government Oil Deposits] geologist. "Sedimentary Basins of the Argentine Sea," National Defense School Review, No 10, December 1975, Buenos Aires). In a related connection, the Malvinas Basin, up to the 200-meter isobath, is totally within national jurisdiction.

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## ARGENTINA

### SOUTHERN BOUNDARY OF ARGENTINE SEA REVIEWED

Buenos Aires ESTRATEGIA in Spanish No 43-44 Nov-Dec 76 Jan-Feb 77 pp 22-25

[Article by Navy Capt Roberto M. Orstein]

[Text] In a few more days, perhaps before this article is published, an almost secular dispute between our country and the sister Republic of Chile on the delimitation of jurisdictions on the Beagle Channel and the islands at its eastern mouth will have ended.

Pursuant to the Arbitration Agreement signed by both nations on 22 July 1971, the Arbitration Court constituted of five judges from the International Court of Justice, who were chosen by common accord of the parties, is ready to issue its decision on the basis of the arguments and evidence presented by these nations over the last 6 years and the general principles of International Law. The decision will be communicated to the respective governments by Her British Majesty, in conformity with the terms of the 1902 "General Arbitration Treaty," which was in force on the date the above-mentioned Agreement was signed.

This old dispute in large measure determined the extremely prudent attitude adopted by the successive governments of the two states, particularly those of our own country, with respect to the demarcation of the maritime border between both nations at the southern extremity of the continent, determined historically, legally and politically by the dividing line of the Pacific and Atlantic Oceans; i.e., Cape Horn. It is true that the arbitration decision rendered in the dispute over the Beagle Channel region is to a degree weighing upon the legitimate titles of both republics; however, no matter what the outcome, there is a clear definition of the demarcation of the maritime jurisdictions, Atlantic for Argentina and Pacific for Chile, consolidated since the era of Spanish rule, throughout the colonial period and in the immediate past as independent nations and, finally, ratified legally and politically by the international instruments signed by both countries in the last quarter of the last century and early years of the present century.

That is to say, there is a boundary agreed to but never demarcated.

Another reason which continued to be relevant for such a demarcation was doubtless the reduced extension which, up to a few decades ago, the maritime jurisdictions of riparian states possessed. However, this has undergone a radical turnabout in the last few years in the face of new developments in international law which, although not yet enjoying the consensus of the international community, nor having up until now been codified by the Third World Conference on the Law of the Sea, convened for this purpose by the United Nations and presently ready to begin its sixth period of sessions, are being accepted at a dizzying pace by the majority of the maritime nations of the world. Both Chile and our country can consider themselves pioneers in this sector; the trans-Andean republic extended its sovereignty up to 200 sea miles from its coasts by means of a Presidential Declaration dated 23 June 1947 and Argentina did so by Decree 14,708, dated 11 October 1946, later updated by Law 17,094, dated 29 December 1966.

This considerable broadening of the maritime jurisdictions of the riparian states has had a significant meaning for them, particularly on the economic plane. It has permitted the incorporation with natural resources proper to the traditional territory of states of a considerable amount of potential wealth, both in the sector of the living resources (or renewable resources) in the waters and mineral resources (or nonrenewable resources) from the sea bottom and the land beneath it. Although the region under consideration: the southern extremity of the American Continent, has not yet been explored in this connection, there are positive signs of its ichthyological wealth and certain possibilities of the existence of mineral resources.

What is more, the existence of such broad maritime jurisdictions has a concomitant impact at the strategic and political levels. As for the former, we cannot deny the influence which the existence of such jurisdictions produces with regard to responsibilities in the sector of the defense of maritime traffic incumbent upon the states bound by reciprocal or regional security pacts. Such is the case with Chile and Argentina, both signatories of the Inter-American Reciprocal Assistance Treaty from which emerge clear responsibilities in this regard.

Nor can it be denied on the political level that these maritime jurisdictions in certain measure have an indirect impact upon the titles which both states might invoke in support of their respective Antarctic claims.

All of this leads to the conclusion that the proper and opportune time has come, as a function of the cordial relations existing between Chile and Argentina and the good understanding developed between the most recent governments of the countries, to proceed to the precise demarcation of this maritime border which has been postponed for such a long time. This will be done with strict respect for the legitimate and unrenounceable rights and interests of each of the parties.

Beyond a doubt, Cape Horn is the key element in the maritime demarcation of both countries, as might already have been surmised at the outset. I do not intend to give a detailed account of all the antecedents which confirm this assertion; these antecedents could fill several thick volumes. Nevertheless, I consider it opportune to briefly trace the most noteworthy aspects.

The primordial element in the establishment of the line of demarcation at Cape Horn arises out of the principle of American International Law known as "uti possidetis juris," by virtue whereof the nations of the New World, upon separation from their respective mother countries, recognized as the boundaries of their territories the administrative demarcations established during the colonial period. Chile and Argentina precisely in the Treaty of Friendship, Alliance, Commerce and Navigation, dated 20 November 1826 (Article 3), and in the Treaty of Peace, Friendship, Commerce and Navigation, dated 30 August 1855 (Article 39), opted for this principle as the basic norm for the solution of the problems of demarcation of their respective territories.

Suffice it, then, to ask ourselves what in 1810 was the demarcation of maritime jurisdictions between the Captaincy General of Chile and the Viceroyship of the Rio de la Plata. Numerous Royal Orders issued at the end of the 17th century and especially at the beginning of 1740, whether to establish religious missions or to perform inspections of clandestine English establishments in the region, old de facto assign the following jurisdictions:

--The eastern part of the Tierra del Fuego archipelago, its coasts and waters (North Sea at that time) to Cape Horn were the responsibility of the colonial authorities of Buenos Aires.

--The western part of the Tierra del Fuego archipelago, its coasts and waters (South Sea at that time) were the responsibility of the colonial authorities of Santiago.

There are an amazing number of documents deposited in the Naval Museum of Madrid and in the Alvaro Bazan Spanish Marine Archives (located in Viso del Marquez) favoring the jurisdiction of the viceroys of the Rio de la Plata over the Atlantic coasts as far as Cape Horn. An equal number of documents exist which prove the titles of the captains general of Chile over the Pacific coast as far as said Cape Horn.

This situation continued during the first decades of the independence era during which both the Chilean and the Argentine authorities carried out clearly legal and administrative acts confirmatory of such jurisdictions.

In 1822, Chile promulgated its first Constitution: this was followed by others in 1823, 1826, 1828 and 1833. In these five constitutions, the boundaries of Chilean territory were defined in a similar way: "The territory of Chile extends from the Atacama desert to Cape Horn..."

On 10 June 1829, the Argentine Government promulgated a decree by means of which it created a Political and Military Command for the Malvinas Islands

and islands adjacent to Cape Horn located in the Atlantic Ocean. In the instructions given to the commander of the warship "Serandi," Jose Maria Pinedo, on 14 September 1832, to place a new commander in charge of his post; i.e., the aforementioned Command, it was clearly established that "he will be given possession of the establishment which includes Soledad Island and other adjacent islands as far as Cape Horn..."

The early decades of the period of independence were followed by others which, during long and laborious negotiations were not always characterized by the prudence of the parties in their territorial pretensions, and which culminated with the signature of the 1881 Boundaries Treaty, on 23 June of that year. Article 3 of the treaty states that the "islands which are in the Atlantic east of the Tierra del Fuego" belong to the Republic of Argentina and that "all of the islands south of Beagle Channel as far as Cape Horn belong to Chile." In the process of the ratification of this treaty by the Argentine side, the then minister of foreign relations, Bernardo de Irigoyen, gave a long speech before the Congress (31 August and 1 and 2 September 1881) which constitutes an important document for the interpretation of this instrument. In this speech, he emphatically affirms that our country maintains, according to the terms of same, its exclusive jurisdiction over the Atlantic coasts and that our flag "will be the only one to fly as the symbol of sovereignty from Rio Negro to the straits of Cape Horn."

On 1 May 1893, Chile and Argentina signed the Additional and Clarifying Protocol of the 1881 Boundaries Treaty. In Article 2, the treaty establishes a delimitation to the effect that "the sovereignty of each state over its respective coastline is absolute; therefore, Chile cannot have pretensions to any point on the Atlantic side, nor can the Republic of Argentina have pretensions on the Pacific side."

As if this were not enough, in the year 1902 both countries signed the so-called Pacts of May. One of them, the The Clarifying Protocol for the Pacts on Arbitration and Arms Limitation, which was really signed on 10 July of that year, ratified once again "the permanent destiny of the Republic of Chile in the Pacific" and the "permanent destiny of the Republic of Argentina in the Atlantic."

I believe that the preceding brief summary justifies fully the assertion that the demarcation of the maritime jurisdictions of Chile and Argentina recognizes Cape Horn as the determining element. However, to proceed to a just demarcation in practice presents certain problems associated with the geographic configuration of the region and the agreements reached in the sector of assignment of insular territories by virtue of the above-mentioned 1881 Boundaries Treaty.

We can divide the demarcation of the region in question into two segments with entirely different characteristics: one of the segments stretches from the region under arbitration of the Beagle Channel to Cape Horn, influenced by the existence of islands under different sovereignties between

which there are passages with particular nautical characteristics, and a second segment which extends from Cape Horn southward for 200 miles from that geographic feature onto the high seas.

The technical criteria to be applied in each of these segments to define the corresponding demarcation must of necessity be clear-cut.

For the second segment, Cape Horn southward, the almost universally accepted criterion of the existence of "historical rights" or "other special circumstances" is applicable (Article 12 of the Convention on the Territorial Sea and Contiguous Zone, Geneva, 1958). In such a case, there is only one technical possibility as a function of all the historical, legal and political antecedents described above: the adoption of the Cape Horn meridian (67° 16' Longitude West).

This thesis is strengthened by the results of the 1919 "London Conference" which considered that the confluence of the Pacific and Atlantic Oceans was "the Cape Horn meridian," and by the International Hydrographic Committee which in its Special Publication No. 23, "Boundaries of Oceans and Seas," published in 1952, once again defined this meridian as the boundary between the two oceans. This publication has been approved by all of the members of that international organization without any reservations whatever, except for Chile which was in disagreement with reference demarcation.

As stated in the first segment, on the other hand, a series of difficulties is presented to the demarcation arising out of the geographic configuration and the insular sovereignty of both countries. There are islands located totally to the east or to the west of the Cape Horn meridian whose ownership is clear and unquestionable, in the light of the treaties in force. On the other hand, there are islands which have their major part in one ocean; however, they extend partially into the other. In all cases, these involve islands that are small, without economic worth, uninhabited and practically uninhabitable. Further, there are no antecedents in the demarcation treaties with Chile concerning the partition of islands, except for Isla Grande of Tierra del Fuego which, because of its size, merits special treatment. Nor are there precedents in the world for the division between two sovereignties of islands with the characteristics described. Consequently, it seems logical to think that such islands should belong integrally to the state within whose jurisdiction the major part of their surface is located. This thesis favors Chile only because there are no Atlantic islands which extend partially into the Pacific.

With the scope of the respective insular sovereignties clarified, suffice it to admit, on the basis of generally accepted principles of International Law and the thesis repeatedly maintained by our country in the "Beagle" legal proceedings, that the parts of the Chilean islands which extend into the Pacific merit a certain amount of maritime jurisdiction of their own. Otherwise, this would mean acceptance of the absurd theory of the "dry coast," which does not stand up to the slightest legal or political analysis. Said

maritime jurisdiction should permit adequate access by sea, from the nautical standpoint, to all points of the corresponding coasts for, otherwise, a kind of "dry coast" would be indirectly established, which is quite unacceptable as such.

If we accept these three principles as valid, the solution closest to the law would seem to be the application of the criterion of the "middle line" or "equidistance" between coasts under different sovereignties (same article of the aforementioned Convention). In this connection, our country, in the "Beagle" legal proceedings, petitioned for the application of this criterion to the disputed region.

However, as also occurs in the Beagle Channel case, the need for assuring access via navigable waters of their own to all points of the coasts under the respective sovereignties, in the present case, makes it indispensable to analyze the obstacles to navigation presented by the passages between the islands with a view to correcting them by means of "necessary inflections" of the "middle line" which results from the strict application of geometric procedures. This thesis has also been maintained by our country in the Beagle Channel arbitration proceedings.

The adoption of the "middle line" with necessary inflections to permit both parties to navigate through their own waters would be entirely compatible with the criterion which very probably the Arbitration Court will adopt, something which in essence was not questioned by Chile.

Summarizing: The line of demarcation between the Argentine and Chilean maritime jurisdictions at the southern extremity of the continent, in my personal opinion, should be governed by the application of the criterion of the "middle line with inflections" from the region under arbitration to Cape Horn and by the criterion of "historic rights or other special circumstances" from Cape Horn southward to the 200-mile sea limit from that geographical feature.

By setting down my thoughts in this paper, I have no intention other than to suggest several technical bases which I feel are applicable to the case under consideration and which take into account the necessary protection of the vital interests of each nation, without detriment to their dignity nor their sovereignty.

My purpose is to facilitate a proper solution, not necessarily the sole solution, to one of the problems of demarcation still pending between the two sister republics which, once removed as has been the case with so many others, will eliminate the last difficulties which still may exist in the path of total and definitive Argentine-Chilean fraternity. I firmly believe that this constitutes an imperative of the hour which nothing nor no one should cast a shadow upon. I admire and respect the noble Chilean nation and its long-suffering people who, despite their "crazy geography," have given repeated

demonstrations of their indomitable tenacity which has permitted them to mold the reality of the Chile of today. For that reason, I consider it essential to find a just and equitable solution to the problems pending between the two countries at present so that, one day, perhaps not too distant, both parties will configure a real unity which, no doubt, will constitute the basis and foundation of a real Hispano-American integration, so often dreamed of by our most illustrious authorities and so often postponed by the contingencies of the political future.

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CSO: 3010



DEVELOPMENT PLAN FOR NORTHERN BORDER RECOUNTED

Buenos Aires ESTRATEGIA in Spanish No 43-44 Nov-Dec 76 Jan-Feb 77 pp 27-32

[Article by Bernardo Quagliotti de Bellis]

[Text] In the primitive land of Sanabria, which was then in the eastern part of the Viceroyship; later the Eastern Province of Artigas; subsequently the Cisplatina Province; finally, the Eastern Republic of Uruguay--physically the same space--there was a conjugation of various situations as the result of different geopolitical plans. Every plan reshapes the space physically or geographically; therefore, the dynamic or static perception that one has of this space is fundamentally important.

National space, supplanting the classical concept and conforming with the definition of Professor Emeritus of the University of Cuyo Col Jorge E. Atencio, "is comprised of the surrounding world in which the state exists. That space is considered as the territory conditioned by its size, its depth; the absolute or relative geographic position or; the type and characteristics of the borders; the geographic influences which give rise to living or dead regions as greater or lesser sources of wealth; and by the imponderable factors dependent upon the capabilities of its population."

Not infrequently, political analysts confuse the term space with mere territorial surface. In the latter concept, space is represented as a static factor, as a passive concretion upon which history solely transpires.

Eastern Space

Uruguay, after its independence in 1830, existed in a worrisome territorial indefiniteness. It started to establish its definitive boundaries with Brazil in the Lamas Treaties (1851), which were a mutilation of the Spanish inheritance. In October 1909, Brazil returned part of the waters of the Merin Lagoon and the Yagaron River. On 12 June 1975, it concretized the definitive establishment of the Arroyo Chuy Bar and the oceanic coastal boundary, leaving still to be defined the Artigas Corner and the Brazilian Island at the confluence of the Cuareim and Uruguay rivers.

Uruguay set the boundaries of the Uruguay River with the Republic of Argentina on 7 April 1961 and those of the Rio de la Plata and its maritime front on 19 November 1973.

The history of Uruguay--like that of other South American countries--indicates to us the importance given to the maritime and fluvial shorelines as areas of impetus for national development. For over a century, this has resulted in an imbalanced growth of the country; lack of utilization or poor motivation of the human and economic resources of other geographic areas and the concentration of economic power in specific regions which thereby have been transformed into exclusive and/or absorptive centers which impede a parallel or measured development of the rest of the national space. Further, the inhabitants of other potentially rich areas are condemned to remain in an underconsumptive situation.

National integration and development are interrelated concepts which permit the realization of a single objective; i.e., the reconciliation of the political-social-economic integrity of the State with the equilibrium of plurinational integration.

#### Population of Uruguay

<u>Census years</u>	<u>Interior</u>	<u>Montevideo</u>	<u>%</u>
1936	1,553,000	512,000	25
1955	1,700,000	881,000	34
1963	1,382,000	1,173,000	42
1975 (early data)	1,534,216	1,229,748	44

#### Uruguay: Its Geopolitical Task

Uruguay will always be sovereignly viable. The idea of the "viceroysip reconstruction" or of the "Cisplatina," being simplistic, obsessive and anachronistic--and also ahistorical--has nothing in common with integrationist nationalism which Uruguay, on the basis of the wisdom of integration, seeks to conjugate upon natural geographic space and voluntarily shared space.

Geopolitics deals with clear and well-defined concepts. The restoration of forms of regional socioeconomic intelligence does not mean an intent to "resurrect" political structures abolished by the irreversible process of history.

It is obvious that the evolution which uruguay had to follow beginning with the decade of the 60's--to its great surprise--resulted in its intimately sharing of the entire spectrum of Latin American problems. Since the end of the last century--coinciding with Argentine Project 80's--Uruguay has been in the process of construction which believes in its development--and its viability--basing itself solely upon the acceptance and incorporation of cultural models and Europeanizing ideological patterns and upon the instrumentation of the molds indicated by the current world economic center.

Within these parameters, Uruguay was constructing an entire phase--projected outward--planning its infrastructure and its entire economy, in conformity with the interests of the dominant export current.

The northern border--in its dynamic meaning--was delineated by the irradiating and converging influence of the port of Montevideo. It was never coincident with its boundaries. Barely did it touch upon the Rio Negro, a geographic feature which practically divides Uruguay into distinct geomorphological subregions. Without maritime vocation, the southern border was located at the port of Montevideo itself, where foreign flagships--essentially English--took on cargoes of Uruguayan raw materials.

The policy of orderly arrangement of the territory is a vital chapter in the socioeconomic life of a nation. The growth of a state is abetted thanks to the effective interrelation of its regional or subregional entities, an action which is directed toward the formalization of national unity. In this connection, every major process of integration--binational or regional--is consolidated more on the border properly speaking than on the politically established boundary. Border is the living occupation of a boundary. When a state does not occupy or develop a border, it only has boundaries--a cartographic superstition--which are vulnerable to the action of neighbor states which, geopolitically, can advance and occupy the vacuums through their social, cultural and economic influences.

Uruguay is a country of almost pure border. Education for development and development for integration should maintain surveillance over our border within the proper boundaries of the state. This indicates, moreover, as a priority action, the clear understanding of the articulation of our country in the context of the Plata Basin. The plurinational process of integration requires the permanent exercise of reconciliation between national objectives and regional objectives.

Integrationist nationalism, which we are postulating, is a proposed unity born of an "ad intra" dialectic prepared by the "ad extra" dialectic. It aspires to harmoniously combine in America the agricultural and mining regions with the industrialized centers, projecting the entire regional economy onto the broad and diversified world commerce.

#### The Northern Border of Uruguay

In a recent work presented by the Uruguayan Council of Social Welfare [CUBS] to the 18th International Conference on Social Welfare (San Juan, Puerto Rico, July 1976), one of the reports deals with: "Equality of Opportunity Beyond the Geopolitical Areas of a Country."<sup>1</sup>

This report states that in Uruguay "the perceived and recognized internal regions are those which we call: North Coast, North Center, Merin Lagoon Basin, Center Atlantic Coast, South Coast, Center, West Center and, finally, the Metropolitan region."

For the purposes of regional and/or continental integration, we will consider the entire national territory to be one geographic region, an indivisible entity, once integrated, internal rationalization has been achieved on the broad regional space. Although in the process of vertebration some aspects may be altered as a function of bilateral or multilateral negotiations of common interest to the totality of expanded and shared geographic space, this should not disarticulate the geopolitical function and action which Uruguay has had assigned to it from its most remote history.

The northern border of Uruguay is characterized by having: a. minimal development; b. lack of infrastructure and communication services; c. population vacuum and property titles for land in the names of citizens of border countries; d. under population which in geopolitical terms makes it highly vulnerable. This great demographic-strategic vacuum calls for internal expansion as well as the relocation in turn of large masses of the national population, all of which is to be supported by selective immigration.<sup>2</sup>

Development Plan: "Tacuarembó River Basin"

When studying the space where plurinational regional integration is being concretized, the Uruguayan border region stands out as an area of stagnation, interwoven in the fabric of influence of centers of industrial development which are located both on Argentine and Brazilian space.<sup>3</sup>

The lack of development in this vast border area (North Center, more than 16,000 km<sup>2</sup>) obviously affects not only national political interests but also regional political interests which are seeking dynamic exploitation and utilization of natural resources. It has, thus, become a "geopolitical site" which, according to Paraguayan Gen Sidulfo Perez Moreno: "Every geographic site is geopolitical when its very location or potential store of natural resources, respectively in direct relation of reciprocal influence with the political sector, give rise to one or more objectives of social relevancy both in the national arena and in the international field."

The border policy applied by Brazil maintains the concept that border lines are alive, forceful and transcendental and that they serve to catapult nationalist action. Brazilian geopoliticians have repeatedly stated that historical experience demonstrates that the border boundary, despite being defined, cannot always be definitive. In South America, there are antecedents in this sector. "Where there are no real barriers, that is where our living border is to be found," said Gen Golbery do Couto e Silva, meaning that it is a problem of relative power and, therefore, one of negotiation, planning, voluntary integration. A national plan is the most effective way to construct a border which will set the authentic border-line in the process of integration.

The "Development Plan of the Tacuarembó River Basin," presented by the Uruguayan Institute of Geopolitical Studies to the authorities of the NORIONE Plan (North of the Rio Negro), departmental authorities and representatives of international organizations, states that in the space between the

border cities of Rivera, Tacuarembó and Montevideo an axis of development should be formalized which would act as a socioeconomic activator, permitting integral utilization of the resources and potentialities of the national territory. In this plan, there will be reactivation or projection of other industrial and service centers.<sup>4</sup>

The thesis of the axis of development, EGEA [Geo-Economic-Administrative Space] -Montevideo and EGEA-Tacuarembó, is oriented toward substantially changing the highly concentrative tendency of the former, permitting active participation of other large geo-economic and geopolitical regions in the process of a harmonious and rational development on Uruguayan space.<sup>5</sup>

Six modern Brazilian highways reach the boundaries of northern Uruguay, as the region interests Brazil not only for strategic but also for economic and, fundamentally, geopolitical reasons. Rio Grande del Sur has two large projects --in addition to the Petrochemical Center of Porte Alegre. SUDESUL [Superintendency of the Southern Region (Br)] established the Northwest PR Project on the Paraguayan border in the Santa Cruz-Asunción-San Pablo axis; the Southeast 1 Project on the border with Argentina and Uruguay (adjacent to the departments of Artigas and Rivera); the Merin Lagoon Project, binational. All are interconnected by a highway and railroad infrastructure which supports the superport of Rio Grande, with provision also for the Yacui-Ibicui-Laguna de Patos waterway. This entire development complex, in the communication sector, is also handling the natural north-south axis of the Plata Basin.<sup>6</sup>

Route 6, which transverses the northern space of Uruguay and is tied to the highways of Argentine Mesopotamia via the Paysandu-Colon bridge, along with Route 31 (Tacuarembó-Salto-Route 26) via the bridge of the Salto Grande Dam, will ensure that the northern part of Uruguay, if no development plan is prepared for it, will be characterized as a simple "transit corridor" between Argentine and Brazilian industrial centers, also facilitating an Atlantic east-west egress to Argentine Mesopotamia via the Rio Grande superport.

The structuring of a real border policy would not only signify efficient control over the passes but an understanding of the boundaries as the place where a nexus is produced with the neighboring countries, where above all the national sovereignties that will facilitate a just, equilibrated and voluntary regional integration may be affirmed. Without sovereign states, regional integration would always be conflictive.<sup>7</sup>

#### FOOTNOTES

1. CUBS: Report of the 18th International Conference on Social Welfare, Montevideo, 1976. The thesis cited was developed conjointly by economist Alberto Tisnes, sociologist Dr Dionisio Garmendia and Bernardo Quagliotti de Bellis.
2. Dr Luis Segui Gonzalez (Member of IUDEG [expansion unknown]) has given speeches and published important works on the subject of population.

3. By decree of the Executive Power (November 1976), and Interministerial Commission was appointed which is undertaking the study of population on the northern border.
4. The plan was presented by IUDEG in the city of Tacuarembó on 8 July 1976.
5. EGEA: Geo-Economic-Administrative Space, a concept conceived on the basis of studies by CEIFAR (Center for Interdisciplinary Studies of Argentine Borders) of the University of Cuyo.
6. With respect to the port structure of the Plata Basin, see ESTRATEGIA No 42, a work by Prof Recaredo Lebrato Suarez.
7. Studies and projects relating to a border policy in the northern part of Uruguay date from the colonial era to the Artiguist period. After the republic was established, in 1857 (Plan of President Gabriel Pereira), 1862 (Tomas Diago); 1863 (President Bernardo P. Berro). In this century, colonization, nationalization of lands and development projects were sought. On 30 March 1976, the Council of State resolved to file Border Draft Legislation in which the Executive Power regulated the holding and exploitation of real property by foreigners in an area 50 km wide. Given the different legislation of Argentina and Brazil in this sector, the Council of State said: "We cannot sanction two different laws for the same sector, applicable to borders with different countries, because that would be unacceptable discrimination, nor apply a rigorous law on a border with a sister country that is practically open."

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## ARGENTINA

### POLITICAL-ECONOMIC FUTURE OF ANTARCTIC DISCUSSED

Buenos Aires ESTRATEGIA in Spanish No 43/44 Nov-Dec 76, Jan-Feb 77  
pp 36-45

[Article by Rear Adm Jorge A. Fraga]

[Text] In his speech on 24 May 1976, his excellency, the president of the nation, Lt Gen Jorge Rafael Videla said, "At the level of international relations, the policy of our government will be developed after an evaluation of the actual situation in the service of the national interest." Later he stated, "Yesterday, we said that this is the moment of truth. The truth is not always nice; at times, it is painful."

The moment of truth has also arrived for our claims to international recognition of Argentine sovereignty over a section of the Antarctic. A truth that is not generally known to the citizenry and which is tremendously complex because of the interests at play of a political and economic nature. For this reason, it is especially necessary to realistically evaluate the Antarctic situation and to lay aside standards or dictates which are not conducive to attaining the national interest. And because the situation is so complex it requires, and will require deep analysis, a valiant attitude for the defense of our rights and at the same time the flexibility and intelligence needed to obtain for Argentina the greatest possible benefit, without losing sight of our position in the concert of world nations. In this manner, the national interest will be satisfied to the fullest. Inflexible attitudes will be of no value if they do not lead to attaining the established objectives, whose polestar is precisely the gaining of as much as possible and participating actively and loftily in the solutions of Antarctic problems. All of this requires a careful explanation, and this explanation is the subject of this work.

First of all, let us speak a painful truth: the sovereignty of Argentina in the Antarctic is not recognized by any country in the world. Seven countries have proclaimed their sovereign rights over as many portions of the white continent: Argentina, Australia, Chile, France, Norway,

New Zealand and the United Kingdom (see map). To add greater confusion, our sector is totally claimed by the United Kingdom and partially by Chile; and, to our greater disgust, France, Norway, Australia and New Zealand accept the sector as being British and not our own. That leaves us only Chile; and this country, as stated, is superimposed with us between meridians 53° W and 74° W. Indeed, with our trans-Andean brothers we mutually recognize Antarctic rights. That is, Argentina accepts as Chilean the sector between 74° W and 90° W and Chile as Argentine the sector between 25° W and 53° W. Let us clarify that the sector claimed by Argentina runs from the 25° W meridian to the 74° W meridian. These meridians delimit the eastern and western extremes of our national territory (Southern Sandwich Islands and Cerro Bertrand in Argentine Lake).

The problem does not end there. Five other countries with interests and historical connections with Antarctica are claiming no sector; however, they are participating in Antarctic decisions. All of these countries, the claimants and the non-claimants (Belgium, the United States, Japan, South Africa and the Soviet Union), signed the Antarctic Treaty in Washington in 1959 as a result of which the problem of sovereignties was left in suspense. This treaty could have had many motivations: the cold war, the presence of Russian bases in the sector previously claimed by Australia, the need for avoiding disputes and contamination, preventing nuclear explosions and/or the depositing of radioactive waste on the white continent, to establish jurisprudence before the imminent arrival of man on the moon, etc. It is not my intention to make an exegesis of all the history which preceded the signing of the treaty nor that of its text; however, I do want to point out one of its advantages which many perhaps have not appreciated: because it is contained within the Antarctic Treaty, a problem of multiple limits was postponed which we may not have been in the best position to resolve. And another: although the treaty does not recognize sovereignties, it does recognize that Argentina has unquestionable Antarctic rights, including the United Kingdom, which has to accept and also acknowledge that we, through scientific and technical activity conducted by our endowments, have a high degree of participation in the future of the Antarctic.

There is more: the non-claiming countries, among which it is noted that there are three powers of the first order: United States, Japan and Russia, particularly the first and the last, which do not accept any sovereignty whatever in the Antarctic. It is logical that these powers be joined by the other non-claiming countries: Belgium and South Africa. Now then, if we did not have the Antarctic Treaty we would probably be in a situation of immediate conflict with Chile and Great Britain, in particular, and with Belgium, the United States, France, Norway, New Zealand, South Africa and Russia, in general.



But other countries have adhered by the Antarctic Treaty: Denmark, the Netherlands, Czechoslovakia, Poland, Romania, East Germany and Brazil. Although these nations are not contracting parties of the treaty, their adherence to the same signifies that they respect its provisions, therefore, our abandonment of the treaty would also imply a position of conflict with them. And if Chile and the United Kingdom remain faithful to the treaty, they could immediately have new principal allies (the contracting parties) and seven secondary allies (the adherents): all of them against the Argentine position.

And the others? The others are looking at the operation of the Antarctic Treaty from the outside. In the past, there have been proposals to internationalize the Antarctic and it is very possible that certain countries will return to this thesis as soon as a favorable conjuncture presents itself. And what a good conjuncture would be the rupture or the failure of the Antarctic Treaty. In this event, in addition to the 11 contracting and seven adhering countries, 140 nations would be added to the conflict with eyes on the Sixth Continent. Clearly, it would be very difficult here to establish who would be in favor of the different types of solution. But it is also clear that the most difficult solution to accept would be that of recognition of particular sovereignties, as is our claim.

Therefore, the purpose of these speculations which we are making is to show the complexity of the political problem of the Antarctic, which certainly will continue to be aggravated in such measure as economic interests interfere in an age of peace, science, collaboration and interchange which the treaty has permitted up until now to safeguard the Antarctic continent from controversies and to reserve it for peaceful purposes.

#### Argentine Rights

But let us get back to our sector. Why did we Argentines claim it? What rights do we have, beyond the most noble, patriotic sentiment which impels us to consider unquestionably our own, those 1,230,000 square kilometers of land and ice and also the waters and sea bottom which surround them? The response is in all of the possible and imaginable aspects which have served as the basis for the acquisition of sovereignty in international law, to wit:

1. Discovery: The British, Americans, and Russians take credit for this in 1819; however, it has been proved that, at least by 1817, seal hunters from Rio de la Plata were already frequenting these lands in search of profit; i.e., the fur seal.

2. Exploration: In the last and present centuries, there were British, American, French, Belgian, Norwegian and German expeditions. However, in addition to our seal hunters, among those who in the year 1854 roamed about in that region, there was Luis Piedrabuena; our participation at the beginning of the century was intermingled with those of the countries already mentioned, the Swedish expedition of Nordenskjold and the Norwegian expedition of Amundsen.

3. Intervention of the navy: The corvette "Uruguay" of the Argentine Navy, carried out the first official participation of Argentina in the Antarctic in 1903 when it rescued the Nordenskjold expedition.

4. Geographic proximity: unquestionable.

5. Geographic continuity: This is demonstrated across the Southern Antilles: Isla de los Estados, Roca Negra, Islotes Cormoran, Southern Georgias Islands, Southern Sandwich Islands; toward the Southern Orcadas Islands, Southern Shetland Islands and Antarctic Peninsula, whose Antartandes cordillera is probably the continuation of the American Andes.

6. Inheritance: The principle of Uti possidetis juris through which we inherited from Spain the lands which belonged to the Mother Country and which through subsequent Papal bulls and treaties were undeniably Spanish.

7. Occupation: Because we established the first permanent base in the Antarctic in 1904, on the Orcadas Islands and since then have been there as no one else has been.

8. Administrative acts: In addition to being on the Island of Laurie, in the Orcadas group, where a meteorological and post office are operating, in 1927 we established the first permanent RT [ radiotelegraphy] station in the Antarctic.

9. Presence and activity: Because more than 130 men work in the winter at the seven active bases (of a total of 12) which Argentina maintains in the Antarctic; because we have for years conducted scientific and technical activity of recognized worth to the world.

10. By sector: Because it was through the theory of sectors that we established our claim and because we belong to the southern hemisphere. It would never have occurred to us to claim a sector of the Arctic, despite the fact that, except for Chile, South Africa, Australia and New Zealand, the other participants in Antarctic activity are located in the northern hemisphere.

## Claims of a Number of Countries

These fundamentals are really important, and it is our obligation to set them forth and amplify them through a continuous analysis and a sustained Antarctic activity.

I will now examine the claims of a number of countries to our sector. Chile, as stated, considers as its own the sector which stretches from meridian  $53^{\circ}$  W to meridian  $90^{\circ}$  W but does not set the same northern limit at parallel  $60^{\circ}$  as does Argentina, but rather extends it to the Fuegian archipelago. Several trans-Andean writers have detailed the fundamentals of the Chilean pretensions which we can summarize as follows:

1. Exploration: It establishes the presence of trans-Andean navigators and seal hunters as early as the last century.
2. Geographic proximity: This argument has the same solidity as our own, some Chileans argue, on the basis of the distance from the Antarctic of Diego Ramirez Island, that Chile is the closest country.
3. Geological continuity: The same argument as that of Argentina, but some writers add that morphologically the Antarctic Peninsula is the image of Chilean Patagonia.
4. Geographic continuity: Here there are writers who maintain the audacious theory that the Pacific penetrates the Atlantic up to the arc of the Southern Antilles already mentioned.
5. Inheritance: The same principle of *Uti possidetis juris* with the following variations, always according to Chileans:
  - a. All of the land south of Patagonia (and part of it) belongs to the Captaincy General of Chile.
  - b. The limit of the assignment of land to Spain, according to the Treaty of Tordesillas and subsequent treaties, is for Chile meridian  $53^{\circ}$  W, where its claim begins. That is to say, according to these arguments, all that is to the south of the American continent and belonged to Spain, should be Chilean.
6. Treaty of 1881 and Protocol of 1893. Certain writers maintain the theory of the Beagle parallel as the southern limit of everything belonging to Argentina. It is not my intention to do other than to present the argument here, the analysis of which would take much time; however, suffice it to say that when the treaties of 1881 and 1893 were signed and even today, the limit recognized throughout the world between the Pacific and Atlantic Oceans is the Cape Horn meridian.

7. Occupation and administrative acts: There is mention of concessions granted in Santiago, the temporary establishment in 1906 of the Magellan Whaling Company on the Isla Decepcion, where Andresen lived with his wife, the first woman to reside in the Antarctic. Some Chilean writers have attempted to minimize the occupation by Argentina in the Orcadas, saying that in order to be valid economic activity must be carried out.

8. Presence and activity: Chile maintains six bases in the Argentine sector of the Antarctic, three of which are permanent in their operations.

Up to this point, in a brief summary, I have presented the Chilean claims. And those of the British? The British claims are based fundamentally upon discovery (according to them) and successive explorations. As for discovery, I have already mentioned the fact that they attribute it to the English navigator William Smith in the year 1819. And the explorations did indeed take place, Weddell, Shackleton, among others, and Scott's arrival at the pole in 1911. However, suffice it to cite a fact that because of its transcendency can explain the British attitude. On 21 October 1805, the Spanish fleet was sunk at Trafalgar, along with the French fleet. Then began the free British penetration into the southern Atlantic, which had already been traversed by a number of navigators and the appropriation and establishment in South Africa, Tristan D'Acunha, the attempt having twice failed on the Rio de la Plata. Thus they arrived in the Antarctic and, perhaps, this is one of the most important reasons for the occupation of our Islas Malvinas in 1883. Because these islands served as the basis for the name Falkland Islands. Dependencies, on the basis of which in 1908 a Letter Patent from King Edward VII, included in the British domain the Antarctic and a good part of present Patagonia on both sides of the cordillera. This very serious mistake was corrected in a new Letter Patent in 1917 from George V; however, it does not invalidate the claim to base its Antarctic rights upon de facto occupations carried out to cement its purpose. Why did it select our sector? The answer is easy: because it is the closest to another continent and most easily accessible.

These two countries, Chile and the United Kingdom, as we have said, are our principal competitors in the dispute over rights to the Argentine sector. Nevertheless, it is worth analysing whether any other country has or could have alleged claims to a part of the land which Argentina claims in Antarctica.

Brazil! Brazil has been and even today is being agitated at times in a sensational manner by its alleged claims in the Antarctic. But the truth is that this country not only has not claimed any sector but just last year became an adherent of the Antarctic Treaty. This means, as explained earlier, the renunciation for now, of any territorial claim of sovereignty, since the treaty expressly prohibits it and furthermore has "frozen"

sovereignties. The question then is: Why did Brazil become an adherent? In my opinion, lacking Antarctic antecedents, such a late claim would be worthless and would also mean confrontation not only with Argentina but also with the 12 countries of the Antarctic Treaty and the other adherents. But since this country is evidently interested in the Antarctic, it has preferred the pathway, an intelligent choice in my opinion, of joining the other 12, rather than a declamatory attitude of sovereignty, which could not be fulfilled in practice. This is doubtless an interesting example.

In any event, and to clarify the question, let us say that a number of Brazilian scholars have drafted theories in their search for arguments for a possible claim. There is a strange sectors theory presented by Terezinha de Castro in 1971. (See note on page [no page number given]) which distributes Antarctic portions among Ecuador, Peru, Chile, Argentina, Uruguay and Brazil. According to this theory, Brazil would obtain the sector from 28° W to 49° 50' W. However, I repeat, this is not what happened but only an analysis by that woman scholar, called the theory of "defrontacao" [confrontation].

And to complete the report on Brazil, let me say that it was not invited to join the Antarctic Treaty because it did not have accumulated Antarctic antecedents nor had it participated in the International Geophysical Year on the continent. Other antecedents indicate that Belgian Gerlache raised a Brazilian flag in the Antarctic in 1898, and Frenchman Charcot gave several names such as Baron de Rio Branco and Islas Pernambuco to geographic features in the Antarctic in recognition of the support provided in Brazilian ports to the respective expeditions. These names do not constitute Brazilian activity in the Antarctic.

By adhering to the Antarctic Treaty, Brazil is establishing its interest in the Antarctic on its extensive Atlantic coast, the principle of equality among all the signatories and the fact that the sector which we could call American is within the lines of demarcation of the security zone of the Inter-American Reciprocal Assistance Treaty. In my opinion, summarily, the lack of Brazilian antecedents and its interest in the Antarctic have been analysed carefully to seek the most skillful way of participating in the future of the Antarctic.

Uruguay has made no claims nor has it adhered to the Antarctic Treaty. Nevertheless, it has a Uruguayan Antarctic Institute; and a number of scholars, on the basis of the alleged jurisdiction of the Montevideo Naval Station, have analysed the possibility of establishing in some fashion Uruguayan interests in the Antarctic.

We have quickly analysed claims, pretensions or studies by countries which are superimposing themselves, could do so or have it done in our Antarctic jurisdiction, which is doubtless an alleged reason for conflict.

Let me make it clear that when speaking of conflict it should not be interpreted to mean armed conflict, but rather a collision of interests which often have peaceful solutions through diplomatic initiatives.

#### The Antarctic Treaty--Its Disadvantages

Let us now return to the Antarctic Treaty. We have already cited several of its advantages. Now let us look at its disadvantages. Unquestionably, in my opinion, being a party to the Antarctic Treaty signifies a restriction upon sovereignty itself. Many of its provisions, such as the prohibition on armaments, the right of inspection of the bases of another country and of our own by any country whatever of the treaty, the possibility of installing bases in our sector (there are six Chilean, 18 British, two Russian and one American base), etc., constitute a kind of internationalization among the contracting parties or a type of temporal condominium which experts in international law will be better able to evaluate, but which in any event impedes the full exercise of sovereignty.

And even more: the establishment of successive recommendations through consultative meetings have been further complicating and tangling the Antarctic questions among the signatories, despite the fact that the treaty establishes that nothing may be interpreted as a renunciation of the rights which each contracting party held prior to signature. Thus have appeared zones of special scientific interest, especially protected areas, historical sites, etc., imposed unanimously by the 12 countries.

It is, therefore, clear that sovereignty is restricted by the provisions of the Antarctic Treaty. And outside the treaty? Could we before signing be entirely sovereign in the sector? Could we be today if we were to leave the Antarctic Club? Still fresh in our memory is the time of the permanent protests with the British and Chileans every time a new base was established or a warship was spotted. For that reason, to avoid conflicts, a joint declaration had to be signed in 1949 with both superimposed countries, restricting the use of warships south of parallel 60; and we had an incident both in 1952 and 1953 at the Esperanza and Deception bases with the English. The truth is that we were never able to fully exercise sovereignty in Antarctica as we do in Catamarca, La Pampa or the Federal Capital. And it is this way because the problem of sovereignties in the Antarctic still has not been resolved internationally; we cannot assure that it will be resolved and, furthermore, we cannot resolve it alone. Argentina could, perhaps, withdraw from the Antarctic Treaty, even from the United Nations; however, that would not resolve the problem of the foreign presence in the sector which the Nation claims.

Could we dismantle the 18 English bases, the six Chilean bases, the two Russian bases and the Palmer base of the United States? Or could we

only adopt a declamatory attitude which in practice would be impossible to concretize? What consequences would such an attitude have? This is a very complex problem, as you can appreciate, and there are no easy solutions to it. "The truth is not always nice; at times it is painful," said the president of the Nation.

However, despite this source of controversies or disputes, the Antarctic Treaty has had the virtue of avoiding conflicts or at least of postponing them. Thus since 1961 peace has existed in the Antarctic, scientific cooperation, pure science in the service of humanity, interchange of information, etc. But the world has been changing and, without going into further detail, we can today prove that the shortage of resources is a world problem both for the most developed and industrialized countries as regards non-renewable resources (minerals in general, hydrocarbons in particular) and for the underdeveloped or developing countries as concerns renewable resources (proteins).

#### Resources in the Antarctic

For these reasons, the nations are eyeing the Antarctic every day with greater intensity as a reserve of one or another kind of resource and, according to the particular situation of each of these countries, there is urgency in the attempt to seek a method of obtaining such resources. But are there exploitable natural resources in the Antarctic? Let us see: in the first place, as regards living resources or renewable resources which can provide the proteins so necessary to a hungry world, the Antarctic ecological system today offers an element which can have tremendous importance for human nutrition or for the processing of balanced foods for animals: the krill.

Of the fauna of the Antarctic, there were two species which had in the past prompted competition among hunters that ended with the almost complete extermination of these species: the fur seal and whales, particularly the blue whale. These animals fed principally upon the krill, a small Antarctic shrimp some 6 cm long. As the consequence of such extermination, the krill has proliferated in astounding quantities and is already being captured for the purposes cited above. It is probable that the quantity of krill that it is possible to fish, without fear of exterminating the species, exceeds the product of all the fishing being carried on in the world.

Argentina is a country without food problems; however, this notwithstanding, it cannot fail to take advantage of this resource which will not be a superseding food but rather a complementary food. The enormous ichthyological wealth has for some time been present on our continental shelf, and once and for all we should undertake its exploitation seriously and

boldly. However, Argentina, as a country aware of what massive commercial exploitation has meant in the past and what it now means, maintains that before making it possible for the krill to be exterminated--which, because this crustacean is the main link of the Antarctic food chain, can in turn mean the extermination of most fauna--all possible studies should be exhausted to determine exploitation quotas and to regulate the capture and processing of krill.

As for mining resources, things are even more complex. The problem of the oil shortage is urging some powerful nations who see their reserves in danger, while others also powerful, which have abundant reserves, prefer to postpone exploitation and perhaps in this way make the problems of the former more acute.

Another aspect is the technology needed to extract petroleum in the Antarctic. Some countries may have it or acquire it quickly and others cannot. In turn, whether such an exploitation is economically feasible depends upon many variables (techniques, methods, transportation, proximity, strategic value for each country, reserves, etc.). What may be for some a mistake for others is something to be coveted. In other words, if we have oil in our continental territory and in the continental shelf which has not been exploited, it seems absurd to go seeking oil 1,000 kilometers south of Cape Horn in the midst of icebergs, ice barriers and in a climate which is totally inhospitable. However, if we did not have reserves in our territory nor in the continental shelf, that would be another matter. And even in the first case, why are we going to allow others who have the technical, resource, method, etc., necessities to go to the sector which we consider to be our own even though they do not acknowledge that it is? And being thus, how do we avoid it? Here we have another tremendous problem which complicates the Antarctic political situation even more and makes the future uncertain. What was said about oil can be extended to other strategic minerals: lead, copper, uranium, coal, etc.

At this juncture, many are wondering whether all of this exists in the Antarctic and whether it is not Utopian to speak of these subjects. Suffice it to reply to the first questioner that there have already been and there are strong pressures to establish a system which permits mining explorations and exploitations in the Antarctic. And if this is requested by powerful countries, with advanced technology and with many years of geological study, great expeditions, satellites, etc., surely it will not be because they believe it impossible. What is more, it has now been proved that the Sixth Continent was centuries ago united with America and Africa. I have already spoken of geological continuity; and studies of this specialty permit assurances of the very probable existence of sedimentary basins of the Cretaceous period, as well as the possibility of minerals in various places.



And why should there not be minerals in a continent which, although it is covered by ice in other times had a better climate, minerals of the kind found in the continents with which it was united? Have we not found fossil vegetation of other climates and recently the remains of plesiosaurs?

To elucidate the second questioner, it would be enough to cast a glance at the North Sea, where 42 companies are exploiting 16 oil wells, some 200 kilometers from the coast and at ocean depths of between 30 and 160 meters. Certainly, the task would be more difficult in the Antarctic; however, let us recall that the techniques have, sooner or later, appeared to satisfy the needs of progress. And what would happen to the plan to keep the Antarctic uncontaminated as a world reserve, laboratory of humanity, etc., in the face of the loss of oil from a well, or the wrecking of a tanker which collides with an iceberg? What just happened in La Coruna, where a wrecked ship endangered a large number of marine species?

As with live resources, Argentina supports the need for avoiding any kind of activity which could endanger the quite fragile Antarctic ecological system where the extermination of a single species could provoke a definitive cataclysm.

#### The Totality of the Problems in Argentina Today

So many problems! Political, economic, legal, ecological problems... What an uncertain future the Antarctic has! Whoever thinks it is simple; whoever thinks that things can be resolved with simplistic statements saying that we must do this or that is profoundly mistaken. Let us look at a map and we will see that our problems begins in the south:

1. The Falklands which were taken from us 143 years ago and which despite all claims, declarations and negotiations we still have not recovered;
2. the southern Georgias Islands in the possession of the British which also belong to us;
3. the southern Sandwich Islands uninhabited, volcanic, claimed by the United Kingdom and Argentina, the limit of our Antarctic sector;
4. the Beagle and the Lennox, Picton and Nueva Islands, being disputed with Chile;
5. our enormous continental shelf of more than 1 million square kilometers and the territorial sea whose international acceptance is being debated at successive meetings of the so-called "Conference of the Sea";
6. the so-called Sea of Scotia, surrounded by the southern Antilles, full of krill;
7. the Antarctic south of parallel 60 with the sector which by right, history, geography and presence we claim for the national patrimony.

Difficult problems, full of implications and interrelated. Problems which the Argentine at times is unaware of or forgets, but which mean nearly 2 million square kilometers of land which we Argentines can lose if we do not act intelligently with a skillful, flexible, bold, decisive strategy

based upon a profound and complete understanding of the problem, casting aside simplistic postures and unproductive declamations.

In the next few years, solutions to the uncertain political-economic future of the Antarctic will take shape. Argentina cannot remain aloof nor fail to take part in the pertinent decisions.

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CSO: 3010

ARGENTINA

CAUTION URGED ON EXPLOITATION OF ANTARCTIC NONRENEWABLE RESOURCES

Buenos Aires ESTRATEGIA in Spanish No 43/44 Nov-Dec 76, Jan-Feb 77 pp 72-81

[Speech delivered by Gen Jorge Leal to Argentine Scientific Society on 20 October 1976]

[Text] I frankly confess my concern over occupying this rostrum. I am not a scientist, and I am speaking to men who have made science the polestar of their lives; and I am attempting to develop a theme which--in its scientific aspects--many of you will know more about than I.

As I stand before you, I am heartened by the conviction that it is a theme which--at times--escapes from its precise technical limits to enter decisively into the political field. The possibility of exploring and exploiting the nonrenewable natural resources of the Antarctic is a problem of a technical and also of an economic nature, undoubtedly; however, in this case it is related to international law and especially to political decisions. Throughout this exposition, we will attempt to demonstrate the truth of this last statement.

I say, therefore, that I will not try to probe deeply into the technical and scientific aspects--a pretension, moreover, which is beyond my capabilities--however, I will attempt to relate them to their political connotations and to indicate in this regard their multiple facets and the importance the problem has for our country, daring to set forth the solutions which I feel are appropriate for the interest of the Republic. On more than one occasion I proposed to make these solutions known to the people through publication in newspapers and magazines of our country.

If at the conclusion of this dissertation you reach the conclusion that I was unable to probe deeply enough, this will be attributable not only to my limitations but also to the complexity and scope of the theme.

(In this part of the dissertation, the speaker said, "I thank my friends, Drs Lorenzo Aristatain and Juan Carlos Puig, for the substantive collaboration they gave me. To the former for guiding me in the technical-political

aspects with which he is profoundly acquainted, not only because he is a specialist on the subject but also because he conducted himself brilliantly in international conferences where these matters were discussed. And I asked the assistance and guidance of the latter because he is a famous jurist, who is known within and outside the country, and who has devoted much of his energy to ponder and research the situation of our Antarctica vis-a-vis international law.

"I also sought support for my remarks in reports and expositions of persons who have had responsibility in these matters; to all of them my gratitude. And, now, thus prepared, I do not feel so much alone as I address you.")

#### What Is There in the Antarctic To Exploit?

I think a logical order of subjects to be covered should begin by asking what is there in the Antarctic to exploit and then to focus upon the problem of the possibility of exploration and exploitation, and finally to indicate the time when it would be proper to carry out such actions.

(The general presented a map which indicated the locations of the most important deposits that have been found up until now.)

The most significant metaliferous deposits on the basis of size are the ferriferous outcroppings studied by the Soviets in eastern Antarctica, south of the Mountains of Peace (Prince Charles). Here they found metaliferous strata which contain up to 42 percent iron with thicknesses up to 100 meters and extensions of 120 kilometers.

In the Davis Base area, strata of more than 160 kilometers in length were located below the ice crust by means of very detailed aeromagnetic mappings. Also located were ferriferous areas in the regions of Dronning and Enderby Land.

All of these deposits constitute areas that are not common in the world as regards the tonnage of iron. They also located copper in Ahlmannryggen.

The presence of sulfur was also detected in sites on the Shetland archipelago, findings of copper, lead and zinc on Livingston Island and copper on the 25 May Island. These explorations were conducted by scientists and technicians from the University of Buenos Aires.

As concerns nonmetaliferous minerals, deposits of Permian coal were found in the region of Beaver Lake, in the Prince Charles mountains and in the region of the Keltic Glacier near the coast of Ross Sea.

There have also been reports of the discovery of fluorite, beryllium and mica. A curious fact about Ross Island (in the sea of the same name) was the discovery of gem-quality olvines, that is to say, a deposit of semi-precious stones.

With respect to hydrocarbons, it is important to consider the studies carried out by the National Science Foundation oceanographic ship "Glomar Challenger" on the Antarctic continental shelf of Ross Sea. It is also known that studies were conducted in Marguerite Bay in our Antarctic sector. In Ross Sea, four wells were drilled, in three of which methane and ethane were detected. These drillings were stopped when these gases were encountered because on that occasion equipment was not available to support the possible escape of gas in explosive form. The depth of the water in the region was approximately 500 meters and the presence of hydrocarbons was detected at 150-200 meters below the sea bed. This news (1972) was of such importance that the WALL STREET JOURNAL devoted a special report to it.

Since important fields of natural gas have also been verified off the coast of New Zealand, in regions and rocks which should be considered the equivalent--because they are located just opposite--of those cited previously in Ross Sea. This forces us to pay very particular attention to the Antarctic discoveries. Particular attention should also be given to the granting by France of permits for oil exploration and exploitation on the Kergelen Islands which, although they are located north of parallel 60 of south latitude (Antarctic Treaty area), their geological structures are quite similar--and we can envision a corresponding deposit--to the Antarctic area fronting on longitude 70° east.

However, apart from what is known, it is fitting that we ask ourselves: What more can be expected to exist in the Antarctic? Doubtless on a continent of approximately 14 million square kilometers it is logical to admit the presence of any kind of mineral resource. In this regard, it is necessary to remember that a good part of the coast of west Antarctica--and up to approximately 160° east--constituted the fracture line when the former Gondwana Continent broke up; and that South America, Africa and Australia--land masses which it abutted--are producers of gold, diamonds, iron and coal; therefore, these minerals could exist in amounts and yields that are commercially similar. And pursuing this thought, in our sector, the Antarctic Peninsula is merely a stylized prolongation of our Patagonian south on the Sixth Continent and it can, therefore, be expected that there are deposits like those existing in the Andes cordillera: that is to say, copper, lead, zinc, gold, tin, chrome, nickel and platinum. In this connection, stratified formations from the Permian period have been discovered in the Santa Teresita cordillera (Pensacola for the Americans) which cover a surface of over 8,000 square kilometers and are approximately 2,000 meters thick (1966-1971). It is known that this configuration is very significantly similar to the igneous complexes of Bushveld in South Africa and Sudbury in Canada, both of which are two large formations that produce chrome, nickel, platinum, magnetite and copper. The explorations were conducted by personnel of the Geological Service of the

United States. We Argentines should consider this area to be of first priority in the hierarchy of objectives in our studies and plans for Antarctic minerals.

With regard to hydrocarbons, it is necessary to give certain background information. As they analyse the oil possibilities of a specific area, one that is even virgin territory for exploration, specialists know that they must operate within two limits: they cannot be victimized by fantasy to the point where they harbor exaggerated hopes; however, they also should not be so lacking in imagination as to overlook the possibilities offered by the area. In the case of the Antarctic--and even the human community--one does not need a great deal of imagination to accept the existence of oil, even without consideration for the pressure being exercised by certain superindustrialized countries to seek and extract there the raw material most eagerly sought after in the world today; a raw material which will continue to be necessary even after it is replaced as an energy material, because of its integration with the petrochemical industry. Pressure which is also manifest in the resolution made by these same countries by earmarking fabulous investments with a view to effectuating, not only a return to previous explorations which were abandoned as unprofitable in normal times, but also particularly to turn this search toward new areas such as the Antarctic.

In the case of the Antarctic, technicians are also applying the so-called "reasoning by analogy," which means that when it is known that oil is present in specific sediments subject to well-defined conditions, it is logical to accept the fact that in similar sediments in other regions subject to the same conditions hydrocarbons will also be found. Someone has already said that nature only improvises in details, maintaining a continuity of response in the major features which permit the establishment of general conclusions.

This reasoning by analogy, tells us that the area of the south Atlantic, with its extensive Tertiary and Cretaceous marine sediments--in which it is known there are vast and rich oil fields, such as the sedimentary basins of the Argentine Sea--should be correlated with and correspond to those existing on the Antarctic Peninsula which was closely aligned and even united with Patagonia in earlier times, with separation and arching beginning recently in the Tertiary period which were to move the Georgias Islands to their present extreme eastern position. Since our Tierra de San Martin (the Antarctic Peninsula) was then a mirror image of the Fuegian arch and its Santa Cruz prolongation, it is quite logical to infer that adjacent to the eastern part of the Peninsula there should be basins similar to the exceptional basins already encountered in our submarine continental shelf.

And as already stated, it is known that there are thick sedimentary strata on Ross Island and also on Alejandro Island, the former being interesting from the viewpoint of exploration and exploitation because it is climatically and geologically suited for such activities. It is also known that there is a large sedimentary stratum in the Scotia Sea which merits special attention.

All of this is what is known; however, allow me to emphasize the circumstances already cited: our Antarctic sector was contiguous--in the now accepted Gondwana Continent--with South Africa and South America and, therefore, one can expect with almost certainty that the resources existing in the latter can and must also be found in the Antarctic.

#### Are Exploitation and Exploration Possible?

In this regard, it is necessary to recall that Arctic oil and mineral exploration and exploitation activities are already being carried out. Therefore, experience has been accumulated under this kind of marginal conditions.

Let us see whether in the Antarctic the work that normally makes up what is known as mining activity can be performed.

Prospecting is the name given to the study of large areas by means of all techniques used to delimit regions favorable for the search for specific minerals. Aerial photographs of various kinds are used which are taken from airplanes and even satellites, photo interpretation, geological mapping, all of the geophysical and geochemical techniques, samples, chemical analysis, petrographic and mineralogical studies, etc.

Exploration comes next, once prospecting indicates favorable areas, with a continuation of the search for details using generally the same techniques, but now looking for a great density of data and large-scale maps to limit the areas of possible economic interest to very reduced sections. This phase is completed with the verification of volumes, tonnage, quality and the technical possibilities of exploitation. The third phase is known as preparation, which consists of the design and execution of the engineering work which will make possible the extraction of the material. Simultaneously, studies are conducted to determine how to separate valuable minerals from those that are not; i.e., to study, design and construct concentration plants. Finally, there is the exploitation phase which involves the extraction of the ore and its concentration.

All of these activities can be carried out in the Antarctic; however, it should be clarified that they will be accomplished at a very high cost, because it will be necessary to adapt the techniques used in the Arctic

and in many cases to develop other new techniques in the face of the extraordinary harshness and complexity of the Antarctic environment. However, technology advances rapidly, as rapidly as desired. Its velocity is a question of the funds earmarked to resolve a specific problem. Therefore, the interest in the exploitation of certain materials in the Antarctic--considering the difficulties of the region--will be conditioned basically by two factors: 1. the need at the world level for the material in question, and 2. whether its exploitation is acceptably profitable.

With regard to the first factor, we can now mention one of the mistakes--or fallacies--of those who in most unseemly haste strongly advocate urgency in the extraction of the material, alleging that the proven world reserves will last a few years. It is obvious that oil will continue to be depleted. The question is the honest demonstration of when such depletion will take place. And that is not easy to determine, particularly since the data on reserves released by countries, and especially the large multinational companies, is self-interested information, and if the true plans and geological data are not known, there is absolutely no guarantee that they are correct. What is more, it is known that there are countries which are limiting production in their territory while accelerating extraction in other places of the world where they obtained exploitation concessions. The fact of the matter is that oil has become a powerful political weapon and information about real reserves is considered highly confidential and therefore, is not divulged.

Also--and in connection with the aforementioned urgency--these same countries say that it is not logical to deprive needy humanity of all that exists in the Antarctic. That is true; however, it is not the whole truth. No one is opposing the exploitation of the wealth of the Sixth Continent; what is being questioned by us Argentines is the time and the manner in which this action is to be carried out.

Should the Antarctic Be Exploited? When?

We do not accept the urgency of implementing economic exploration and the consequent exploitation because we are convinced that this haste will of necessity and irremediably affect the Antarctic ecosystem--and consequently our own will be affected--through the unleashing of an uncontrollable race to exploit this oil in the absence of serious and detailed studies of the impact such an action would have on the environment. For us Argentines, such a race would have another disastrous consequence: since a sensible and detailed agreement has not been established to provide an equitable and integral solution to the problem, our titles of sovereignty would be disavowed. In this regard, it is worth recalling



the position taken in Paris---in July 1976---on the occasion of the Preparatory Meetings of the 9th Antarctic Treaty Conference which will be held in London in 1977, when countries which do not recognize sovereignties in the region (such as the United States) maintained that "they consider the Antarctic an unclaimed sector of 360° with the South Pole as the center." I repeat: "They consider the Antarctic an unclaimed sector of 360° with the South Pole as the center."

With respect to the second factor which conditions the interest in the exploitation of the Antarctic resources, we said that the reference was to the profitability of such activity. In this regard, the normal costs for exploration and exploitation are known for other latitudes of the Earth; however, it is necessary to transfer these costs to the Antarctic. The American scientist, Neal Potter, (1969), in his work entitled "Potential Natural Resources of the Antarctic," with respect to the cost of air and/or maritime transport calculated that costs could be raised 5 to 10 times the average for temperate climates. Manpower and logistic support would also cost many times the price normally paid or charged for such activities in other latitudes.

Summarily: the cost of Antarctic exploitation per se would be 5 to 10 times higher than that of other places in the world. In clarification--and this is important to our subject today--the costs of exploration and exploitation of hydrocarbons beyond the pack-ice (marine ice) would only be a little higher than in similar operations in other areas of the Earth.

In summary: if we accept these figures as approximately correct, we can conclude that for a material in the Antarctic to be economically exploited, it will have to be at least 10 to 15 times richer than a similar deposit located in the middle latitudes. It is clear, therefore--in the face of the present status of information about what is stored in that region--in the immediate future it would not seem feasible to engage in mining exploitation on the Sixth Continent.

This is not true with respect to oil, because we have already indicated that marine exploitation activities would not be very different in cost from those of other regions with warmer climates.

Therefore, it is proper that we continue to orient this exposition toward the subject of oil, taking as a point of reference whether exploitation should be carried out--and with what urgency--on the aforementioned wealth and to determine in what way such activity is coincident with Argentine interests in the region.

In this way, let us plunge into the political aspect of the question. At this point, it is necessary to give you a little history on the subject.

In 1973, we warned the authorities and the people about this problem; and since I consider what I obstinately and insistently maintained at that time to be right up to the minute, allow me to summarize it for you:

1. We pointed out in what manner the powerful countries of the Earth, persisting in a tremendous dispute for control over the world sources of energy, had envisioned the Antarctic as a field where they could advance their control ambitions. And it was that way because the conduct of the Antarctic scientific research and better information about the area had been showing its extraordinary possibilities and determining in a certain way the broad economic horizons lying beneath the dense ice cap.
2. We said that for more than 5 years--now nearly 10 years--some countries which had signed the Antarctic Treaty had been demonstrating an increasing and ill-intentioned interest in starting activities which were not precisely those prescribed by the letter and the spirit of this agreement.
3. We called attention to the strange attitude--precisely of those countries--at an unofficial meeting convened by Norway, in which scientists from all countries that were signatories of the Antarctic Treaty were assembled to talk about a prearranged agenda which had been circulated beforehand by the corresponding diplomatic channels. Despite this, our representatives with astonishment were able to show in what manner the lengthy program to be discussed had been reduced practically to the contention that a demonstrated urgency existed in ruling on the oil exploration and exploitation that presumably exists in the area. Our representatives categorically rejected with well-founded arguments the need for such urgency and, forming a common front with Chile, Japan and Russia, succeeded in foiling--in principle--the maneuver headed by Norway and England which had the support of the United States, France, New Zealand and South Africa.
4. We also emphasized at that time the danger which such a situation would entail for our interests in the Antarctic, pointing out that it was precisely companies of the countries which were supporting the aforementioned urgency which were then extracting oil in the Arctic. They were using new and exclusive techniques, and it would not take much to infer with what celerity and diligence such techniques, already proven in the north, could be adapted to the southern region. And logically it was these countries which would have benefited from urgency, since in this way the potential number of competitors was automatically limited. Argentina, because of its perennial economic-financial limitations, has had to continue postponing the effective exploitation of the enormous

mineral wealth of the metropolitan territory. Lacking also polar techniques for the exploitation of oil, it could ill enter into competition with the large international, monopolistic companies.

Also at that time, we warned of an axiomatic consequence derived from the imposition of such eager urgency. It would carry with it implicitly--because of its haste--a depredatory impact upon the environment with the certain destruction of the delicate equilibrium of the ecological system. If we consider the fact that the Antarctic ecosystem has a direct and decisive influence upon the neighboring ecosystems and, therefore, upon the nature of our entire metropolitan territory, waters and surrounding air, we can deduce how greatly it interests us to prevent the taking of uncontrolled actions in that region or actions whose effects have not been duly studied.

We cited as an aggravator of the situation the fact that our sovereignty in the sector is questioned by a number of countries and disavowed by others, in order to emphasize the meaning for Argentine rights in the region of an uncontrolled, international race to exploit those resources. Pointing out that such a race, unfortunately, would have as its first objective our sector, because this is the Antarctic region which extends the furthest north and for this reason is relatively free of ice and, consequently, the area of the continent in which the nature and possibilities of the Antarctic could best be studied.

Finally, we concretized what was in our opinion the position which our country should maintain in this situation, and we said this:

"Our country must maintain--with complete intransigency--the establishment of a moratorium of at least 2 decades, during which all actions involving the exploration and exploitation of the nonrenewable natural resources of the Antarctic should absolutely be prohibited. This moratorium should in turn be the instrument which permits:

1. The free, sufficient and methodical negotiation of an agreement--to be reached among the countries which signed the Antarctic Treaty--designed to provide a just and overall solution to the problem.
2. To implement the substitution of oil as an energy source, as this is a material which triggers the urgency of the aforementioned exploration and exploitation.
3. To give time for the technological training of the countries which--like our own--are in a poor position to assume tasks of this nature and, therefore, also have reduced possibilities of participation.

## Conclusions

Three years went by and the situation logically has continued to evolve. However, I must confess that I think this evolution was unfavorable for the interests of Argentina in the Antarctic. Several international meetings have been held since then and that moratorium which should have been the primary objective to be achieved by our foreign policy continues to escape us as regards any opportunity we have of imposing it.

At the ninth Consultative Meeting of the Antarctic Treaty--which will take place in London in 1977--discussions will be held officially on the subject that preoccupies us today, among others. And sadly for us Argentines such discussions will have a clearly political tone. I say "sadly" because I maintain that it would have been better for our interests--and for the interests of the international scientific community--if the question were subordinated to considerations of a scientific character. That position, moreover, would have been in consonance with the letter and the spirit of the Antarctic Treaty, an accord which is the law for the 12 countries which signed it.

You gentlemen assembled here know the dangers which any irrational exploitation means for the ecological system of any region. Consider how much more risky the situation will be in a little-known territory such as the Antarctic, A territory which can be characterized--despite progress in investigations and information about the continent--as a region covered by a very fragmentary mass of information and suppositions derived from said information in a generalized and somewhat speculative way. If the White Continent is a challenge to science, if we are ignorant of the factors and circumstances configuring the strange and disconcerting natural Antarctic processes, how can it be stated seriously--as was done in Paris in July to certain delegations--that there was sufficient information and that, therefore, talks could now begin about exploration and exploitation of the natural resources of Antarctica?

During the same conference, Argentina and Chile reaffirmed their positions as countries claiming their respective Antarctic sectors, taking up the defense of the principle of sovereignty. The Soviet Union--supported in some aspects by Japan--pointed out in an extensive exposition its determined and firm negative position as regards the urgency of exploiting the resources of the Antarctic, basing its position upon the need for protecting the environment in the region and requesting the implementation of a moratorium of at least 10 years, a period of time it considered necessary to complete studies designed to indicate what action should be taken in the region. This was a demand for a moratorium which our country should have perforce made an effort to secure and which we were not even

able to support. It is apparent that the real reasons which motivated the Soviet position surely are different from our own; however, the fact is that this position coincides with our interests. England achieved its power by practicing a slogan which said that "it did not have permanent friends but permanent interests." In the case of the Antarctic, the Republic of Argentina--making good use of the political realism exercised both by the West and by the East--" should have neither friends nor enemies but interests which are in accordance with our rights in the region." At this point I feel it opportune to recall a thought expressed by Dr. Saenz Pena when he said: "Nations, as reasonable entities, only move at the impulses of national interests and advantages."

We will attempt to secure the moratorium; there are weighty scientific reasons which we will utilize; there are valid arguments which involve an authentic defense of nature; there is experience that shows in which manner accords or agreements born with the use of the forceps of urgency are generally deformed. There is also the need to train ourselves and thus be able to participate honorably in the exploitation and utilization of the wealth which belongs to us.

Gentlemen, these were my conclusions. I invite you to form your own, but not before seeing in what way Argentina is to take action in those far-off, cold, inhospitable, but very much our own and promising latitudes.

(At the end of his dissertation, Gen Jorge Leal exhibited two films which show the activities being carried out by Argentines in the Antarctic sector.)

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## ARGENTINA

### LIVING MARINE RESOURCES OF SOUTHERN SEA DISCUSSED

Buenos Aires ESTRATEGIA in Spanish No 43/44 Nov-Dec 76, Jan-Feb 77 pp 100-111

[Article by Aldo P. Tomo]

[Text] In recent years, there has been awakened in the world a growing interest in the Living Resources of the Southern Sea. On the list of these resources are the names of a number of mammals such as whales and seals, the krill (*Euphasia superba*), fish, squid, crabs, lobsters and algae.

For several centuries, the cold waters of the northern hemisphere provided man with its fish catch. A rise in human population and its increasing demand for animal protein brought with it developments in the exploitation of the resources in tropical and antarctic waters.

Those areas of exploitation cannot compare with the wealth on the magnitude of the resources of the last named area.

As an indication of the wealth of the animal resources, we can cite the biomasses of Antarctic krill for which some writers such as Lyubimova, 1973, gives an estimate that ranges from several hundred million tons to some 5 billion tons. The figure given by Tomo and Marschoff in 1975 ranged from 220 to 440 million tons. Some fishing experts have predicted that some 100 million tons can be caught annually without ruining the stock. For Tomo and Marschoff, the estimated figure for catches without detriment to the stock ranges from 80 to 100 million tons per year.

These figures singularly indicate that they exceed the annual fishing catch for the whole world over the last several years.

In view of these a priori estimates, a considerable number of countries have become interested in exploiting these resources; and there are others planning its future exploitation.

With regard to the need for proposing management and conservation of the marine living resources of the Antarctic, a call was made through the members of the scientific community and a number of nations, as well as international agencies and other organizations. This was done with a view to avoiding the overfishing which occurred in the case of sardines in California waters, anchovies in Peru and whales and seals in the Antarctic, all of which are testimony of the poor management of natural resources by the interested countries. To arrive at good, if not excellent, management of the resources in the waters of the Antarctic, it has become necessary to propose research objectives, provide a list of the living resources of the Southern Ocean, the status of information from the standpoint of these resources and to give an approximate idea of the magnitude and distribution of same.

Summarily, before engaging in massive exploitation, more should be known, biologically speaking, about these resources as well as their magnitude, distribution and the structure and operation of the Antarctic marine ecosystem where they are living, so as not to destroy them.

It is already known that an immature ecosystem is, moreover, easy to destroy through lack of information about it or because of poor management of the exploitation of its members.

Today, I will give a brief but exact account of what has been learned up until now about the members of the Antarctic marine ecosystem which are part of the resources that this system offers to humanity, with a view to their being better known and intelligently managed.

#### Algae

The algae are represented by large, laminary species such as the genus *Macrocystis* and a number of species of the genus *Durvillea*. These algae are extremely abundant along the sub-Antarctic coasts and are already the subject of exploitation in Chile and Tasmania. These algae are an essential part of the ecosystem of the sub-Antarctic regions, as they include a varied fauna, serving as a refuge and a food source for a great number of animals, particularly fish, crustaceans and mollusks.

Along the coastal regions of the Antarctic archipelagos and coasts of the Antarctic continent, there is a large population of *Macrophytas*; e.g., *Macrocystis* whose abundance is estimated at some 3 to 10 kg/m<sup>2</sup> and whose fields cover areas of over 200 km<sup>2</sup> in the Kerguelen and Falkland Islands.

Also, the genus *Durvillea* has an abundance of between 10 and 20 kg/m<sup>2</sup>. In the summer, large concentrations of small-sized algae grow along the Antarctic Continent. Many of the Antarctic and sub-Antarctic algae have

an importance as a potential resource for the chemical and pharmaceutical industries, as well as the food industry. They also have a capital importance in the operation of the ecosystem, as they are the habitat of certain fauna and producers of dissolved organic and inorganic substances, including antibiotics which are taken in and transferred through the food chains. An intensive step-by-step study of the Antarctic and sub-Antarctic algae should be implemented to obtain more information about them.

#### Invertebrates (Bottom-dwelling)

Crustaceans such as crabs and lobsters at present are only known to exist in the sub-Antarctic Islands; e.g., lobsters (*Jasus paulensis*, *Jasus tristani*) at St. Paul, Amsterdam and Tristan da Cunha; crabs (*Lithodes murravi*, *L. antarcticus*) in Crozet, New Zealand, the Magellan region and possibly the Marion Islands. Many of them have been exploited irrationally for some time. In the Auckland Islands a species of crab (*Jacquiniotia edwardsii*) has also been exploited. Knowledge about these species of invertebrates of commercial interest has been increasing in the last few years.

The same thing is happening to the bivalve mollusks which are little known on the Antarctic Peninsula and the Scottia Arch. Mussels and oysters have been found only in this area. Other information also indicates that the stock of shrimp and langostinos is very poor.

As resources, there is much to learn about these animals, in addition to knowing them as members of the ecosystem. For example, it has already been discovered that the ophiuroids are related to the starfish, eat krill and many other isolated observations which demonstrate the lack of data on this subject.

#### Pelagic Invertebrates

Among the species of pelagic invertebrates, the euphausiids are by far the most important and among them the group of the species which plays a major role is *Euphausia superba*. There are other species of euphausiids which also play an important role on the coasts of the Antarctic continent and north of the Antarctic convergence.

In certain areas, there are other planktonic crustaceans; e.g., amphipods, copepods, quetoquectos and poliquetos, about which it is known that they are very abundant, as well as that they are eaten by big consumers. But apart from their importance in the food train, they are not what the krill is and, especially, *Euphausia superba* in the field of natural resources. This does not mean that one day they will not be as important, as is the case with the tiny algae (diatoms) which eat krill.



During and after the whale-hunting period, many studies were conducted on this species; however, there are still big gaps in our information about the same. For example, areas of distribution, spawning regions, life span, whether the female lays eggs only once in her life, whether males and females live in a single school, whether each school is a colony, what are the growth rates, reproduction, natural mortality, whether the entire circumpolar stock is genetically uniform or not. Little is known about the circulation of eggs, larvae, the young and adults. In sum, many biological parameters are for the moment unknown.

Many estimates have been made of the biomass and animal production of the krill, on the basis of primary production or consumption by whales and others, although there are questions about the former, as some appear to be overestimated, in general terms they are accepted as methods of approximation. During the Conference on the Marine Living Resources of the Southern Ocean, estimates on the order of  $200 \times 10^6$  tn were accepted as realistic; however, this is only a fraction of the total production. The quantities consumed by other minor cetaceans: seals, birds, squid and bottom-dwelling invertebrates is unknown; however, they would raise the production calculations once known.

In general, the structure, migration, dynamics of the school of krill are poorly known. Finally, it is known that the krill is the basis of the sustenance of the Antarctic marine ecosystem.

Chart showing the different estimates of this resource given by various writers (Taken from "The Krill and Its Importance," Tomo and Marschoff, 1974)

Krill Biomass	Gulland 1970 $75 \times 10^6$ tn	El-Sayed 1971 $1.78 \times 10^9$ tn	Lyubimova 1972 $.8-5 \times 10^9$ tn	Tomo & Marschoof 1974 $220-440 \times 10^6$ tn
Production of krill according to zooplankton biomass	$75 \times 10^6$ tn/yr	$1.78 \times 10^9$ tn/yr	--	$110-220 \times 10^6$ tn/yr
Production of krill according to primary production	$500 \times 10^6$ tn/yr	--	--	$130-670 \times 10^6$ tn/yr

## Squid and Octopuses

Squid and octopuses are known as extremely important organisms in the food structure of the Antarctic ecosystem, since they are an insignificant [sic] part of the diet of sperm whales, seals, penguins, birds and fish. According to calculations by Clarke (Voss, 1975), the sperm whales of the southern hemisphere consume some  $50 \times 10^6$  tn/yr. I believe this figure to be a little high compared to the data on existing whales given by other writers. It is said that squid prey on large quantities of krill, as they are very aggressive and rapid swimmers, due to the high development of their nervous system. These characteristics, unique in the invertebrates, make them comparable in conduct to the large predatory vertebrates.

From all of the above, it is deduced that it is doubtless a resource of potential importance in the Southern Ocean, as it is in other oceanic sectors of the world. To estimate this potential resource it is necessary to have data about its abundance, along with basic information about its biology and data about its consumption of krill.

Squid are surface-dwellers and octopuses are bottom-dwellers; therefore, the biomass of the latter, because of the lesser flow of energy, is not as large as the former; however, even thus it is necessary to know more about them, their biomass and production. There is no commercial fishing of squid in the Southern Ocean; however, it is fished by the Japanese in waters near New Zealand on the order of  $20 \times 10^3$  tn/yr (the species fished is *Notodarus sloani*).

## Fish

The inventory of Antarctic fish is relatively complete but our knowledge of the biology and distribution of these fish is still fragmentary.

Nearly 75 of the 120 species of the bottom-dwelling fish belong to the nototheniiform group. Nearly 12 species of these nototheniiforms are being exploited at the present time. We have the case of the sale in Moscow, Leningrad and other Russian cities of *Notothenia rossi*.

All of these fish live on the small submarine continental shelf and islands of the Antarctic, as well in the sub-Antarctic islands; they are also found on the slope of this shelf and submarine banks.

Something is known about the acclimatation to the cold of some of these species; e.g., antifreeze proteins (glyco-proteins) in *Trematemus borchorevinki*. They have low growth rates; i.e., they increase slowly. Generally, they eat krill. Their eggs are usually demersal. There are data about abundance, density of stocks and distribution of a number of Antarctic fishes; however, these are not evaluations worthy of confidence.

There were observations of large concentrations of *Notothenia rossi-marmorata* around the southern Georgias Islands in 1975; however, these could not be confirmed by recent expeditions (1975-76). Possibly this concentration decreased because of intensive exploitation. Surprisingly, surface-dwelling fish seem to be lacking, although there are several species such as *Pleurogramma antarcticum* which are pelagic; most of the larvae of the bottom-dwelling species are pelagic and some species not native to the Antarctic have been found at middle depths in the Antarctic waters, of which the Myctophids are the most frequent.

Finally, it is necessary to know more about these members of the Antarctic ecosystem and living resources.

#### Marine Mammals

##### Seals and Whales

The marine mammals have been exploited in the Antarctic since the end of 1800. What is known about Antarctic seals and whales is very abundant. The last conference on the Living Resources of the Southern Ocean of the group of specialists focused its attention upon several biological aspects of the marine mammals, which have a special importance in the structure and functioning of the ecosystem and the changes which have taken place in this system, since the decrease in the stock of whales and the halt in the hunting of seals.

We can cite the surprising increase in the fur seal population (*Arctocephalus gazella*) in the southern Georgias Islands, which rose from a few hundred in 1930 to 350,000 at present. Also, north of the convergence the species *Arctocephalus tropicales* which also penetrates Antarctic waters increased its population. The estimate of the abundance of seals is quite realistic and their biology is sufficiently known, except for the Ross seal which is considered a rare species.

The crab seal is the most abundant. Its diet consists exclusively of krill (*E. superba*). The other species, such as Weddell, sea leopard, Ross seal, sea lion and the fur seal eat fish and squid, in addition to krill.

Estimated Population of Antarctic Seals in Some Areas, Based Upon the Latest Census, According to Siniff (1976)

Species	Areas	No. estimated No. partial	No. total
<hr/>			
		Feb. 1969	
Crab	Weddell Sea	10,597,500	
Weddell		92,900	
Leopard		205,400	
Ross		28,400	10,924,000
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		Feb. 1972	
Crab	Amundsen	1,193,000	
Weddell	and	45,600	
Leopard	Bellunghausen	48,600	
Ross	Seas	37,460	1,324,660
<hr/>			
		Jan. 1973	
Crab	Coast of	472,000	
Weddell	Oates	64,800	
Leopard	George V	23,200	
Ross		63,900	623,900
<hr/>			
		Jan. 1974	
Crab	Coast of	492,100	
Weddell	Adelia,	52,500	
Leopard	Claire and	29,600	
Ross	Bauzare	29,600	603,800
<hr/>			

The sea lions (*Mirounga leonina*), like the fur seals, have increased their population since the halt in hunting. Bonner and Laws, 1964, estimate for the southern Georgias Islands a population of 370,000 sea lions.

The waters surrounding the Antarctic are inhabited by five species of great whales: the blue whale (*Balaenoptera musculus*), alette whale (*Balaenoptera physalus*), humpbacked whale (*Megaptera novocanglise*) and sperm whale (*Physeter catadon*). Also inhabiting the area are the small Minke whale (*Balaenoptera acutorostrata*), the southern right whale (*Eubalaena australis*). Finally, we find the killer whale or orca (*Orcinus oreia*) which has a significant impact upon the ecosystem because of his predatory habits.

## Antarctic Whales

Initial and present number, and quantity of food consumed by whales

Species	Initial Stock	(10 <sup>3</sup> tn) present	Ave. wt. (tn)		Biomass (10 <sup>6</sup> tn)		Krill consumed 10 <sup>6</sup>	
			Init.	Pres.	Init.	Pres.	Init.	Pres.
Alette	400	84	50	48	20	4	81	16
Blue	200	10	88	83	18	0.8	72	3
Sei	75	40	18	17	1.4	0.7	6	3
Humpbacked	100	3	27	26	2.7	0.1	11	0.3
Minks	200	200	7	7	1.4	1.4	10	10.1
TOTALS	975	337			43.0	7.0	180	33.0

## Birds

The study of Antarctic birds has a rich history which goes back to data obtained during the first Antarctic explorations and continues up until now.

Nearly 50 species of birds nest on the islands or along the Antarctic continent and feed directly on the foodstuffs which the sea offers.

The oceanic birds seem to depend upon the krill, squid and fish for food. The more coastal birds feed on carrion, coastal invertebrates, jellyfish, etc., while others prey upon colonies of other birds with which they cohabitate.

A first approximation of the size of the bird biomass was made which appears to be rich in the Southern Ocean.

Penguins make up 98 percent of the total biomass of avifauna. Among these the dominant species is the Adelia penguin (*Pygoscelis adeliae*) on the Antarctic coasts. On the sub-Antarctic islands 83 percent of the avifauna are penguins and the rest consist of petrels and albatrosses. The total stock of all the Antarctic birds is estimated at around 200 million birds. This last figure can be taken with reservations because it is necessary to take more precise censuses and conduct studies of the dynamics of populations to confirm it. The important point about these birds is that they are great consumers of krill, fish and squid and follow the seals and whales in the order of predation.

The importance of birds from the ecological standpoint is that they take food from the system and by migration transfer it to another. Many more studies must be made of birds.

## Utilization of the Resources

### Marine Mammals

Whales were commercialized in the past, yielding an annual production on the order of 1.5 to 2 million tons (with a peak of nearly 3 million tons in one season), between the years 1930 and 1960.

The sustainable catch, if the entire stock is to be maintained at the highest productive level, could be on the same order as previously. At present, the stock is recovering.

The southern right whale, the blue and humpbacked whales are very scarce and are given total protection. The other whales such as the Sei, Minke, alette and sperm whales have declined less in stock.

The present management of the problem of whales is being handled by the International Whale Commission (IWC) which is now in concordance with scientific recommendations.

Something similar happened to seals; however, they are now recovering nicely, after having been exploited without a logical basis. We hope that this will not happen again in the future.

### Fish

The Soviets have caught fish on a large scale, particularly during the last few years, in waters near the sub-Antarctic islands. The peak captures were on the order of 400,000 tons in 1970, near the southern Georgias Islands, and 200,000 tons in 1971, near the Kerguelen Islands. This observed and proven drop in catches during the recent campaigns in 1975 and 1976 in the area of the southern Georgias, Sandwich and Orcadas Islands indicates that the stock was affected by overfishing. According to unofficial information, in 1976, south of the Orcadas Islands a Russian fleet was fishing with approximately 14 boats.

In our noncommercial nets, we have caught the heads and tails of Antarctic fish at the level of the southern Orcadas and southern Georgias. This means that factory ships were operating in the area, as these fish parts indicate that the Russians were canning the bodies of the fish. What is more, judging by the freshness of those parts, it is possible to suppose that the Russians were very close to us and present at almost the same time. This could confirm the reports about the Russian fishing fleet.

The principal fishing grounds are not well-known; however, it is inferred that they are in Scottia Sea and in the waters near New Zealand.

The catch of fish near the Antarctic continent does not seem to be very abundant, although below Ross Sea not many but large fish were caught of the species *Doimostichus mawsoni*.

#### Large Crustaceans

These are not very abundant and their prices are quite high. This has permitted the development of fisheries around several sub-Antarctic islands.

The total production of rock lobster is on the order of 1,500 tons per year. This seems to be the maximum production of the stock. Management methods for this resource have been introduced into most of the fisheries. With regard to crabs, these have not been fished except for the product of the South American fisheries (southern cone).

#### Squid

It is believed that this resource is very large and will be exploited intensively in the next few years in the Antarctic and sub-Antarctic.

#### Krill

Many studies were made of the feasibility of capturing krill, and several thousand tons were captured: e.g., 40,000 tons in 1974 by the Soviets and some 1,000 tons in 1974 by Japan.

There are big problems of locating, fishing and processing krill which must be overcome if large catches are to be had of around 200 tons per day at low cost, not more than \$50 per ton. With large catches at low cost and with a proper market, this would be a good source of revenues for the country which engages in such fishing. These technological problems are still to be resolved.

During the last Antarctic summer, 1975-76, the German research ship "Walther Herwing," together with the factory vessel flying the same flag, and the Polish research ship "Professor Sciledski" caught krill in the area of the Fleet and Scottia Seas on the average of 50 tons per net. This indicates that certain problems of locating krill have been overcome, as well as problems of catch and processing, since they made meal and other products from their catch. This means that the only things left to do are to reduce the costs of catch and processing and to find a proper market for its sale. The exploitation of krill can be expensive for those countries because of the great distance which they must travel to reach the fishing grounds. For the Russians and Japanese it appears to be profitable since they catch krill and sell it in their own countries.

What would happen if we who are one step away from these fishing grounds (approximately 4 days from Ushuaia) were to dedicate ourselves to the catch, processing and selling of krill to these countries or to others which could catch it or consume it? There are many countries lacking in animal protein and the krill could be used in the human diet in various forms of processing (cheeses, butters, sausages, etc.). It can also be used to feed farm animals in the form of fishmeals which would be part of their balanced diets, or it could be used as a fertilizer for the soil.

As can be seen, the krill has a broad spectrum of application.

I want to make it clear that I am aware we have important fishing resources on our submarine continental shelf; e.g., hake, long-tailed hake, codfish, pollack, anchovies, Fuegian sardines, crabs and others which are not so abundant as thought and which one day will be exhausted. This does not mean that we are not interested, although we have no need of these resources to feed ourselves now, since we have other meats. However, we could sell krill to other countries and obtain foreign exchange, as we are in a better position to do it. The only thing needed would be a push at the national level to create the infrastructure necessary to establish development centers in our south. In an initial phase, agreements could be reached with interested nations which would provide the machinery and the boats. The country could count upon, or better stated can count upon, the human professional and technical factor and the manpower necessary for such an enterprise. Then, as we attain a broader industrial development, we could manage the problem. It is a question of feedback: production generates foreign exchange, which generates technological advances, which generates greater production and this greater foreign exchange, etc. I think that it is worth the effort to attempt it, as there are nations interested in the problem of the krill. Although it is in a fragile ecosystem and is the center of sustenance of some since all others prey upon it, although the minimum estimates already expressed are real and with the management of resources perfectly established, great catches could be taken without ruining the stock.

If we do not fish the krill, there will be those who will, although at the outset it may not be profitable for them: in the end it will be, and we will have missed the boat.

During the last conference held at Woods Hole, United States, in August 1976, the conclusion was reached that many studies still had to be made of the krill. As a matter of fact, many things concerning its biology and dynamics have to be confirmed; however, there are not enough scientific ships in existence to conduct all of these studies in a period less than 5 to 10 years. Therefore, each country could ask the commercial fishing fleets to catch krill, provide information about it with a view to filling



in the gaps in the information available about the krill. However, if we analyse this in depth, I wish to state that its commercial fishing would be permitted. Now then, why don't we do it ourselves? We could fish and obtain biological and fishing biological information to later dictate the norms for the management of the resource. This would be scientific and commercially beneficial to us. If there is in existence a minimum of around 200 million annual tons of production from the system and from it we take no more than 30 percent, that would total  $60 \times 10^6$  tons annually, without ruining the stock. If we drop these figures even lower, let us say that there are some  $50 \times 10^6$  tons annually of production, a 30 percent annual capture would be  $15 \times 10^6$  tons per year, an enormous fishing fleet would be needed in the area to capture them. Therefore, I think that with a reasonable annual catch, which would never be greater than that taken annually in Argentina (which is on the order of 350,000 tons, since our fishing fleet is involved in it), with the fishing of some 100,000 tons per year we would benefit and would not be disturbing the system. We would also be contributing to scientific knowledge about the species in question (*Euphausia superba*).

Let us go back to the beginning to conclude this article. Since growing interest in the living marine resources of the Southern Ocean had been aroused in August 1972, SCAR [expansion unknown] established a subcommittee of the Biology Working Group on Marine Living Resources of the Southern Ocean, or of the South (Marine Living Resources of the Southern Ocean SCAR) in which it was invited to take part. This subcommittee met for the first time in May 1974 in Montreal (Canada) conjointly with the conference of the Polar Oceans SCOR-SCAR. This subcommittee made several recommendations concerning the study and future management of the resources. These were presented and approved at the 13th SCAR Meeting in September 1974 in the U. S. and subsequently approved by the international conference of the Coordinating Group of the Southern Ocean which belongs to ICC (International Oceanographic Group) held in Buenos Aires in July of that year. Later, in March 1975, the IOC Executive Council invited the SCAR subcommittee to prepare practical proposals for collaboration in the study and research of Biological Oceanography in the area and to prepare proposals related to the organization of studies with several ships from different countries in the area, under the control of SCAR-SCOR and IOC.

During the 7th Consultative Meeting of the Antarctic Treaty held in Oslo (Norway) in June 1975, it was recommended that the Treaty invite SCAR to continue its scientific works on this subject and to consider the possibility as soon as possible of a meeting to discuss the work and reports produced in connection with the study of the conservation of the Marine Living Resources of the Antarctic.

In recognition of these new responsibilities, SCAR and its executive met in June 1975 and elevated the status of the subcommittee to that of Specialists Group of the Living Resources of the Southern Ocean.

The terms of reference adopted by the group were:

1. To present the current status of knowledge of the Antarctic Marine Ecosystem from the standpoint of the structure and dynamics of its functioning and the biomass of the organisms of the different levels of the food chain.
2. To stimulate research on ecology and the dynamics of the population of the organisms at the different levels of the food chain with particular reference to krill, squid, fish and whales.
3. To maintain liaison with FAO.
4. To advise SCAR and SCOR and through them other international organizations and, in particular, to respond to the relevant recommendations which with respect to resources were issued by IOC and the Antarctic Treaty during their consultative meetings.

This group of specialists is made up of the following members: S. Z. El-Sayed (U.S.A.); J. A. Gullard (FAO); J. C. Hureau (France); R. M. Laws (OK); T. Nemoto (Japan); C. G. Newman (South Africa); A. P. Tomo (Argentina); G. Hempel (SCORE-IABO); T. G. Lyubimobo (USSR); S. Olsen (Norway); P. B. Siniff (U.S.A.); D. Trauter (Australia); Sir G. Deacon (SCOR); G. A. Knox (New Zealand). This group now also is attached to SCOR as SCOR Working Group 54; therefore, it is SCAR-SCOR G. W. 54.

This Group of SCAR-SCOR Specialists met at the end of the International Conference on Marine Living Resources of the Southern Ocean in the U.S.A. in August 1976, where a presentation was made of the current state of knowledge about the Antarctic Marine Ecosystem and Its Resources, recommendations were made and the BIOMASS (Program for Biological Research into the Antarctic Marine Systems and their Stocks) was created. Its objectives are: 1. To provide data and information for the conservation and intelligent administration of the Marine Living Resources of the Southern Ocean; 2. to better understand the complex system upon which the resources depend and its flow of energy. These were approved at the last meetings of SCOR-SCAR (Mendoza, October 1976) and will be remitted to the next IOC consultative meeting in May 1977.

#### Final Conclusions

This writer thinks that in-depth studies should be made of the structure, functioning and flow of energy of the Antarctic marine ecosystem to learn more about it and to be able manage the resources which it offers in an intelligent manner. As Argentines, we also have the obligation of looking out for our own economic interests. Therefore, through a combined in-depth study (scientific-political-economic) of the problem of the Living

Resources of the Antarctic at the national level we must establish the guidelines of a policy to follow in the next few years which will not damage this last natural ecosystem on Earth about which we have a great deal to learn and become familiar with in order to manage it; however, we should not stand around with our hands in our pockets and prejudice our opportunities as a nation when the time for its exploitation arrives.

All of the data presented here, apart from the personal opinions of the writer, were taken from the works presented and analysed at the meetings of the Group of Specialists of which he is a member.)

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